

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549  
AMENDMENT NO. 1  
TO

**FORM S-1**  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933  
**XILIO THERAPEUTICS, INC.**  
(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**2834**  
(Primary Standard Industrial  
Classification Code Number)

**85-1623397**  
(I.R.S. Employer  
Identification Number)

**828 Winter Street, Suite 300  
Waltham, Massachusetts 02451  
(617) 430-4680**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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**Approximate date of commencement of proposed sale to the public:** As soon as practicable after this Registration Statement is declared effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to Be Registered	Amount to be registered <sup>(1)</sup>	Proposed Maximum Offering Price Per Share <sup>(2)</sup>	Proposed Maximum Aggregate Offering Price <sup>(2)</sup>	Amount of Registration Fee <sup>(3)(4)</sup>
Common stock, par value \$0.0001 per share	8,455,950	\$18.00	\$152,207,100	\$14,110

(1) Includes 1,102,950 shares of common stock the underwriters have an option to purchase.

(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(a) under the Securities Act of 1933, as amended. Includes the offering price of shares that the underwriters may purchase pursuant to an option to purchase additional shares. See "Underwriting."

(3) Calculated pursuant to Rule 457(a) based on an estimate of the proposed maximum aggregate offering price.

(4) A registration fee of \$9,270 was previously paid in connection with the prior filing of this Registration Statement and the additional amount of \$4,840 is being paid herewith.

**The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.**

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

**SUBJECT TO COMPLETION, DATED OCTOBER 18, 2021**

**PRELIMINARY PROSPECTUS**

**7,353,000 Shares**



**Common Stock**

We are offering 7,353,000 shares of our common stock. This is our initial public offering, and no public market currently exists for our common stock. We expect the initial public offering price to be between \$16.00 and \$18.00 per share. We have applied to list our common stock on the Nasdaq Global Market under the symbol "XLO."

We are an "emerging growth company" as defined under the U.S. federal securities laws and will be subject to reduced public company reporting requirements for this prospectus and future filings. See "Prospectus Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company."

Investing in our common stock involves risks. See "Risk Factors" beginning on page 17 of this prospectus.

	Per share	Total
Initial public offering price	\$	\$
Underwriting discounts and commissions <sup>(1)</sup>	\$	\$
Proceeds, before expenses	\$	\$

(1) See "Underwriters" beginning on page 206 of this prospectus for additional information regarding underwriter compensation.

We have granted the underwriters an option for a period of 30 days from the date of this prospectus to purchase an additional 1,102,950 shares of common stock.

The underwriters expect to deliver the shares of common stock against payment in New York, New York on or about \_\_\_\_\_, 2021.

Joint Book Running Managers

**MORGAN STANLEY**

**COWEN**

**GUGGENHEIM SECURITIES**

Lead Manager

**RAYMOND JAMES**

Prospectus dated \_\_\_\_\_, 2021

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Neither we nor the underwriters have authorized anyone to provide you with any information other than that contained in this prospectus, any amendment or supplement to this prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States, we have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

The market data and certain other statistical information used throughout this prospectus are based on independent industry publications, governmental publications, reports by market research firms, or other independent sources that we believe to be reliable sources. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosure contained in this prospectus, and we believe that these sources are reliable; however, we have not independently verified the information contained in such publications. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section entitled "Risk Factors" and elsewhere in this prospectus. Some data are also based on our good faith estimates.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our consolidated financial statements and the related notes thereto and the information set forth in the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” Unless the context otherwise requires, we use the terms “company,” “we,” “us” and “our” in this prospectus to refer to Xilio Therapeutics, Inc. and our subsidiaries.*

### Overview

We are a biotechnology company focused on harnessing the immune system to achieve deep and durable clinical responses to improve the lives of patients with cancer. We have built our geographically precise solutions, or GPS, platform to rapidly engineer novel molecules, including cytokines and other biologics, that are designed to optimize their therapeutic index by geographically localizing their activity inside tumors. Current immuno-oncology, or I-O, therapies have curative potential for patients with cancer; however, their potential is significantly curtailed by systemic toxicity that results from activity of the therapeutic molecule outside the tumor microenvironment, or TME. Our molecules are engineered to localize activity within the TME with minimal systemic effects, resulting in the potential to achieve enhanced anti-tumor activity. We are advancing a number of geographically precise, or tumor-selective, agents through various stages of development. Our most advanced product candidates are XTX101, an anti-cytotoxic T-lymphocyte-associated protein 4, or anti-CTLA-4, monoclonal antibody, or mAb, and XTX202, an interleukin 2, or IL-2, therapy. In June 2021, the U.S. Food and Drug Administration, or FDA, cleared our investigational new drug application, or IND, for XTX101, and we recently initiated our Phase 1/2 trial to evaluate XTX101 in patients with solid tumors. In addition, in October 2021, the FDA cleared our IND for XTX202. We anticipate initiating a Phase 1/2 trial to evaluate XTX202 in multiple solid tumor types in the first quarter of 2022. We are also advancing our tumor-selective IL-12 product candidate, XTX301, with the goal of submitting an IND in the second half of 2022, and we are currently pursuing preclinical studies for our tumor-selective IL-15 product candidate, XTX401. We also plan to continue to leverage our GPS platform to develop additional immunotherapies, including product candidates with a range of tumor targeting approaches.

### Our Approach—Improving the Therapeutic Index of I-O Therapies

Our focus is to improve upon two of the foundational mechanisms of I-O: cytokines and checkpoint inhibitors. Since the 1980s, cytokines have been explored as a cancer therapy due to their ability to carry messages between cells and serve as master regulators of the body’s response to inflammation and immune attack. Although cytokines have demonstrated compelling clinical efficacy in certain tumors, including the ability to generate sustained complete responses, or CRs, in a subset of patients, their use is limited by severe systemic toxicity. Similar to cytokines, checkpoint inhibitors have shown the potential to provide meaningful improvements in survival for patients with cancer, but the utilization of these therapies, beyond those that target the immune proteins PD-1 or PD-L1, is also limited largely by toxicity.

Our goal is to overcome the limitations of current I-O therapies by developing products with an improved efficacy-to-toxicity ratio, or therapeutic index. The toxicities for cytokines and checkpoint inhibitors stem from their activity outside of the TME. Our GPS platform is designed to overcome these systemic toxicities by creating tumor-selective molecules and unleashing the activity of cytokines and checkpoint inhibitors in the TME. These molecules are intended to be inactive until they reach the TME, where they are activated, resulting in localized clinical activity without dose-limiting toxicities. To achieve this tumor selectivity, we apply our GPS platform, which includes engineered features and a proprietary protein masking technology that render our molecules inactive until reaching the tumor. Our GPS platform also enables regulated pharmacokinetics, or PK, and protease-dependent activation, resulting in geographically localized anti-tumor activity. The engineered features are designed to ensure that our product candidates are stable molecules with well-understood properties and a reproducible manufacturing approach.

### Our Pipeline

Leveraging our GPS platform, we are building a pipeline of tumor-selective cytokine and checkpoint inhibitor immunotherapies to treat cancer. We have worldwide development and commercialization rights to all of our product candidates.

The following chart summarizes our product candidates and anticipated upcoming milestones.

Tumor-Selective Programs	Mechanism of Action	Discovery	IND-Enabling	Phase 1	Phase 2	Phase 3	Upcoming Milestones
XTX101 <sup>(1)</sup>	Anti-CTLA-4						Preliminary Phase 1 Monotherapy Data Mid-2022
XTX202 <sup>(2)</sup>	IL-2						Preliminary Phase 1 Data 2H 2022
XTX301	IL-12						IND Submission 2H 2022
XTX401	IL-15						IND-Enabling Studies

(1) We plan to initially evaluate XTX101 as a monotherapy and as a combination therapy for the treatment of advanced solid tumors.

(2) We plan to initially evaluate XTX202 as a monotherapy and as a combination therapy for the treatment of renal cell carcinoma and melanoma prior to potential expansion into additional cancer indications.

XTX101 is a clinical-stage, tumor-selective anti-CTLA-4 mAb that is designed to improve upon the therapeutic index of existing anti-CTLA-4 therapies by localizing its activity in the TME. Leveraging our GPS platform, we have engineered XTX101 to enhance the desirable features of an anti-CTLA-4 antibody while minimizing its known limitations due to toxicity. In June 2021, the FDA cleared our IND for XTX101, and we recently initiated our Phase 1/2 trial to evaluate XTX101 in patients with advanced solid tumors. Our Phase 1 dose-escalation trial is a first-in-human, multi-center, open-label trial that will evaluate the safety and tolerability of XTX101 at the target dose with the goal of establishing a recommended Phase 2 dose, or RP2D, both as a monotherapy and in combination with KEYTRUDA<sup>®</sup> (pembrolizumab), an anti-PD-1. We expect to present preliminary data for the monotherapy cohort for this trial in the middle of 2022 and preliminary data for the combination cohort for this trial in the second half of 2022. In May 2021, we entered into a clinical trial collaboration and supply agreement with Merck & Co., Inc., known as MSD outside the United States and Canada, to explore XTX101 in combination with pembrolizumab in patients with advanced solid tumors. In preclinical studies, we observed that XTX101 was activated *ex vivo* using human tumor samples showing cleavage of the masking domain. In mouse models, XTX101 demonstrated anti-tumor activity at 0.3 mg/kg, similar to an ipilimumab analogue at 3 mg/kg, and showed tolerability at doses up to 3 mg/kg.

XTX202 is an engineered form of IL-2 that is masked with a protein domain to prevent binding activity until the protein domain is cleaved off by TME-associated proteases. In preclinical studies, we observed that XTX202 was activated in a protease-dependent manner, exhibited tumor growth inhibition and was well-tolerated in non-human primate, or NHP, models up to 10 mg/kg. In October 2021, the FDA cleared our IND application for XTX202. We anticipate initiating a Phase 1/2 trial to evaluate XTX202 in multiple solid tumor types in the first quarter of 2022, and we expect to present preliminary Phase 1 data in the second half of 2022. In addition, assuming we successfully complete the Phase 1 trial and determine the RP2D for XTX202, we plan to initiate clinical trials of XTX202 in combination with current standard-of-care agents to assess the ability to dose XTX202 at its RP2D in combination with a therapeutic dose of current standard-of-care treatments.

Leveraging our experience, we are applying our GPS platform to known cytokines that we believe have meaningful therapeutic potential, but that have been unable to achieve regulatory approval to date. We are developing XTX301, our engineered tumor-selective IL-12 molecule, with the goal of submitting an IND in the second half of 2022, and we are currently pursuing preclinical studies for XTX401, our tumor-selective IL-15 product candidate. Both of these cytokine product candidates exhibited tumor-selective activity with minimal peripheral effects in preclinical models, showed tumor growth inhibition in mouse models and were well-tolerated in multi-dose studies in NHP models.

We currently have worldwide development and commercialization rights to all of our product candidates.

Leveraging our GPS platform, we intend to develop a number of additional product candidates using a range of tumor targeting approaches, with the goal of achieving a clinically meaningful improvement in their

therapeutic index. We also plan to evaluate opportunities for better tolerated and more efficacious combination therapies, using product candidates from across our portfolio with other cancer therapies, to increase the potential for curative regimens in oncology. Beyond oncology, we also plan to apply our GPS platform to other disease areas in which the immune system is dysregulated, such as in autoimmune and inflammatory diseases.

#### **Our GPS Platform**

We believe that geographic localization of the activity of I-O agents to the TME can overcome dose-limiting toxicities historically associated with these therapies and enable maximal therapeutic benefit for patients. Using our GPS platform, we have engineered molecules that are designed to be turned on selectively in the TME, thereby reducing potential toxicities and improving their therapeutic index.

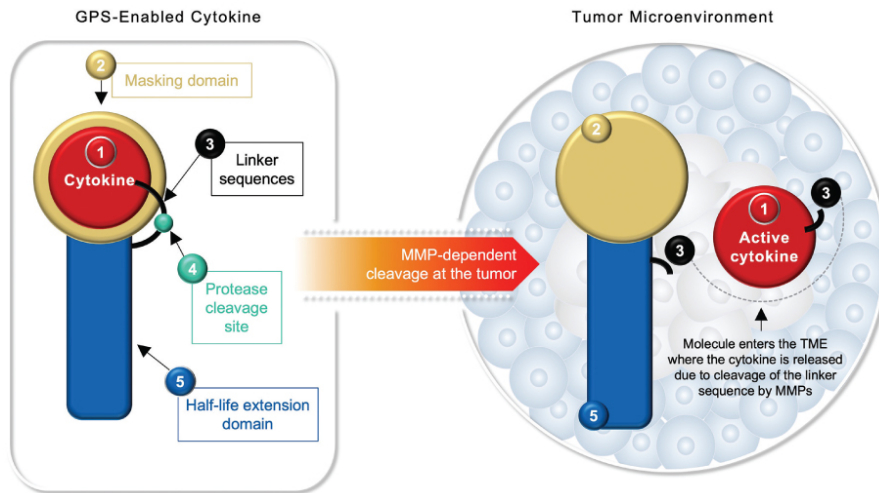
Matrix metalloproteases, or MMPs, are enzymes involved in protein degradation that are essential for tumor growth and metastasis because they regulate key processes within the TME, including growth, survival, angiogenesis, invasion and metastasis. MMPs are preferentially active in the TME by comparison to non-tumor organs or tissues. As a result, MMP activity can be leveraged to activate molecules within the TME that have minimal or non-detectable levels of activity outside the TME.

Our GPS platform enables us to engineer a broad range of immune-modulatory molecules, including cytokines and antibodies, that contain masking domains that minimize the activity of these molecules outside of the TME. The molecules are then designed to be turned on selectively in the TME where they are activated by the unique conditions in the TME, including the preferential activity of MMPs.

Key features of our tumor-selective molecules exemplify the engineering approach that underpins our GPS platform. The general architecture of a GPS-enabled molecule contains the following features: a masking domain; linker sequences; a protease cleavage site; a half-life extension domain (solely for GPS-enabled cytokines); and the active engineered molecule (i.e., an engineered cytokine or antibody). Each of these features works in concert to enable our molecules' potential ability to induce tumor selective biological activity and tumor growth inhibition while minimizing toxicity outside of the TME.

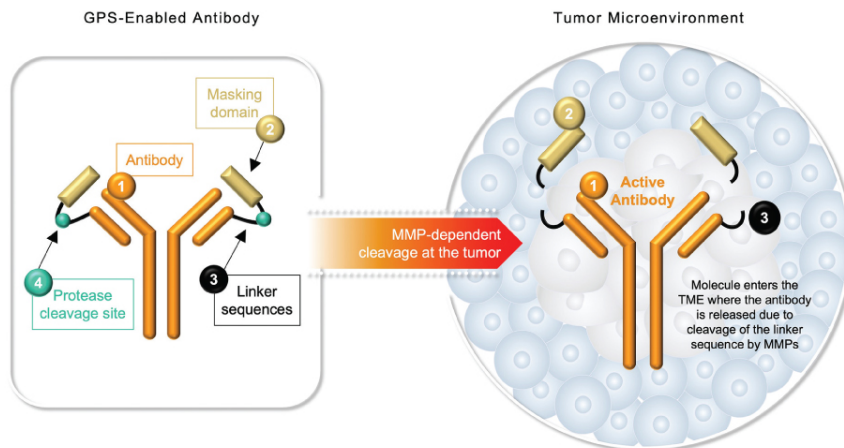
In the graphic below, an illustrative cytokine product candidate on the left contains a masking domain that is released by protease cleavage. The half-life extension domain is shown in blue, the masking domain in tan and the active cytokine in red. When the linker sequences, shown in black, which contain a protease-cleavage site, shown in green, are cleaved by proteases, the masking domain is released, allowing the cytokine to bind to the target receptors. Before cleavage by the MMP in the TME, the engineered cytokine has minimal or non-detectable levels of activity outside the TME. Specifically, there is no binding to target receptors, and the molecule has a long half-life outside the TME. After cleavage in the TME, the engineered cytokine is locally activated and has a short half-life.

**Key Features of Our GPS-Enabled Cytokines**



Similarly, in the graphic below, an illustrative antibody product candidate on the left contains a masking domain that is released by protease cleavage. The masking domain is shown in tan and the active antibody is shown in orange. When the linker sequences, shown in black, which contain a protease-cleavage site, shown in green, are cleaved by proteases, the masking domain is released, allowing the antibody to bind to the target receptors. Before cleavage by the MMP in the TME, the engineered antibody has minimal or non-detectable levels of activity outside the TME. Specifically, there is no binding to target receptors. After cleavage in the TME, the engineered antibody is locally activated.

**Key Features of GPS-Enabled Antibodies**



We believe that the characteristics of our GPS platform enable the following key advantages:

- masking that takes advantage of multiple intra-molecular interactions, minimizing the risk of activity outside of the TME and therefore the risk of toxicity;
- engineering the active molecule such that unmasking in the TME promotes a potent anti-tumor immune response;
- early consideration and incorporation of manufacturing and development aspects into the design of molecules to facilitate production of high-quality drug product for clinical use;
- half-life extending inactive cytokines to support administration to patients on a schedule consistent with other biologics agents; and
- locally activating cytokine molecules that have a short half-life in the TME, which minimizes the risk of the released cytokine exhibiting activity outside of the TME and, therefore, further reduces the risk of toxicity.

In addition to utilizing proprietary engineering that is broadly applicable to structurally diverse mAbs and cytokines to realize the full potential of I-O agents for cancer therapy, we believe our GPS platform enables diverse applications to multiple biologic modalities, and has the potential to be applied to multiple therapeutic areas, including autoimmune and inflammatory diseases.

#### **Our History and Team**

We have attracted a diverse executive leadership team comprised of industry professionals and scientists with extensive expertise in building and leading successful biotech companies. Our executive leadership collectively has over 100 years of experience and has worked at leading pharmaceutical companies and academic institutions, including Abbvie, Inc., Bristol-Myers Squibb Company, Cubist Pharmaceuticals, Inc. F. Hoffman-La Roche AG, Janssen Biotech, Inc., Magenta Therapeutics, Inc., Merck & Co., Inc., Tesaro, Inc. and the University of Texas M.D. Anderson Cancer Center.

Furthermore, collectively, members of our executive team have contributed significantly to the filing of over 40 INDs and over 30 new drug applications, or NDAs, supplemental NDAs and biologics license applications, including for ground-breaking cancer treatments such as pembrolizumab, dostarlimab, niraparib, docetaxel and trastuzumab.

#### **Our Strategy**

Our vision is to transform the lives of patients with cancer by harnessing the power of highly potent, tumor-selective I-O therapies that deliver deep and durable clinical responses. By leveraging our GPS platform, we aim to discover, develop and, ultimately, commercialize I-O therapies that overcome the known limitations of today's approaches and provide effective, tolerable and durable therapeutic options for patients and their physicians. In order to achieve our goal, the key elements of our strategy are to:

- **Efficiently progress our most advanced cytokine product candidate, XTX202, through clinical development for multiple cancer indications as both a monotherapy and a combination agent.** Using our GPS platform, we engineered and are developing XTX202, a novel, modified form of IL-2 that is masked with a protein domain to prevent binding activity until cleaved off by TME-associated proteases. Due to its mechanism of action and opportunity to deliver tumor-directed activity while minimizing the risk of off-tumor effects, we plan to explore the therapeutic utility of XTX202 for the treatment of solid tumor indications. In October 2021, the FDA cleared our IND for XTX202. We anticipate initiating a Phase 1/2 trial to evaluate XTX202 in multiple solid tumor types in the first quarter of 2022, and we expect to present preliminary Phase 1 data in the second half of 2022. If we receive positive findings from the Phase 1/2 trial, and subject to discussions with regulatory authorities, we intend to efficiently advance XTX202 into registration-enabling clinical trials both as a monotherapy and as a combination therapy initially for the treatment of renal cell carcinoma, or RCC, and melanoma prior to potential expansion into additional cancer indications.



- **Execute our Phase 1/2 development program for XTX101 and, if successful, transition to randomized registration-enabling trials for XTX101 in a range of solid tumor indications.** In June 2021, the FDA cleared our IND for XTX101, and we recently initiated our Phase 1/2 trial for XTX101 in patients with advanced solid tumors, which is designed to evaluate the safety of XTX101 as a monotherapy and in combination with pembrolizumab. We expect to present preliminary data for the monotherapy cohort for this trial in the middle of 2022 and preliminary data for the combination cohort for this trial in the second half of 2022. Following establishment of a RP2D for XTX101 in combination with pembrolizumab, we plan to initiate registration-enabling trials of XTX101 in combination with an anti-PD(L)-1 in a range of advanced solid tumor types, including melanoma, RCC and non-small cell lung cancer, or NSCLC, based on the established role of ipilimumab in these indications. Given the broad range of potential indications, we plan to explore opportunities for strategic collaborations to maximize the full potential of XTX101 and support its future commercialization, if approved.
- **Advance our preclinical cytokine product candidates, XTX301 and XTX401, into clinical development.** Leveraging our experience, we are also applying our GPS platform to known cytokines that we believe have meaningful therapeutic potential but that have been unable to achieve regulatory approval to date. As part of our strategy, we are developing XTX301 and XTX401, which are engineered tumor-selective IL-12 and IL-15 molecules, respectively. We are advancing XTX301 with the goal of submitting an IND in the second half of 2022, and we are currently pursuing preclinical studies for XTX401, our tumor-selective IL-15 product candidate. In preclinical models, both product candidates exhibited tumor-selective activity with minimal peripheral effects.
- **Broadly expand our portfolio by applying the versatility and reproducibility of our GPS platform to develop I-O therapies for cancer.** We have prioritized efforts to develop I-O therapies based on the therapeutic activity of I-O agents established in other clinical trials, while recognizing that the benefit of many of these I-O agents, particularly cytokines, has been historically hampered by issues of short half-life, poor bioavailability and significant toxicity. By leveraging the insights and capabilities of our platform and our leadership team, we aim to systematically create novel molecules, including cytokines and other biologics, that overcome these challenges to safely localize their potent activity to the TME. We believe that our GPS platform, which enables us to develop molecules with the potential to trigger anti-tumor immunity, while limiting systemic exposure to improve tolerability, is broadly applicable in oncology. As a result, we intend to develop a number of additional product candidates using a range of tumor targeting approaches, with the goal of achieving a clinically meaningful improvement in their therapeutic index. We plan to continue to invest in our innovative GPS platform and in our team to further expand our capabilities to engineer, manufacture and develop potentially more effective and less toxic therapies.
- **Build a fully-integrated I-O company by independently commercializing approved products in indications and key geographies where we believe we can maximize our product candidates' value.** We currently own all worldwide development and commercialization rights to our product candidates and programs, which we believe have been optimally selected based on our extensive preclinical data, including data with disease-specific animal models and biomarkers, supporting their potential for clinical success. To maximize the full potential and value of our pipeline, we intend to retain key development and commercialization rights for our product candidates in key indications and geographies where we believe we can ultimately commercialize successfully on our own, if approved. In addition, we intend to pursue strategic collaborations where a collaborator may have geographic operations or other capabilities that are synergistic or additive to our own.
- **Leverage the broad applicability of our GPS platform through strategic collaborations in autoimmune diseases.** We believe the collective components of our GPS platform and the reproducibility it enables in our drug discovery and development efforts, present a meaningful opportunity for us to leverage our GPS platform not only in oncology but also in multiple therapeutic areas beyond oncology, such as in autoimmune and inflammatory diseases. We plan to explore strategic collaborations that would enable us to accelerate the development of additional product candidates or programs as well as expand our capabilities, pipeline opportunities and product offerings particularly where a collaborator may have expertise or capabilities that are synergistic or additive to our own.

**Risks Associated with Our Business**

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the “Risk Factors” section of this prospectus. These risks include, but are not limited to, the following:

- Even if this offering is successful, we will need to obtain substantial additional funding to finance our operations and complete the development and any commercialization of any current or future product candidates.
- Our business is highly dependent on the success of our current product candidates, which are in the early stages of development and will require significant additional preclinical and clinical development before we can seek regulatory approval for and commercially launch a product.
- Our approach to the discovery and development of product candidates based on our technological approaches is unproven, and we do not know whether we will be able to develop any products of commercial value.
- Preclinical development is uncertain. Our preclinical programs may experience delays or may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize these programs on a timely basis or at all, which would have an adverse effect on our business.
- We may encounter substantial delays in the commencement or completion, or termination or suspension, of our clinical trials, which could result in increased costs to us, delay or limit our ability to generate revenue and adversely affect our commercial prospects.
- Our product candidates may cause undesirable or unexpectedly severe side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.
- Interim top-line and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.
- We expect to develop certain of our product candidates in combination with third-party drugs and we will have limited or no control over the safety, supply, regulatory status or regulatory approval of such drugs.
- Manufacturing biologics is complex, and we may experience manufacturing problems that result in delays in our development or commercialization programs.
- We face risk related to our reliance on our current and any future third-party contract manufacturers, or CMOs. For example, the CMOs on which we rely may not continue to meet regulatory requirements, may have limited capacity and may experience interruptions in supply, any of which could adversely affect our development and commercialization plans for our product candidates.
- We expect to rely on third parties to conduct, supervise and monitor IND-enabling studies and clinical trials, and if these third parties perform in an unsatisfactory manner, it may harm our business, reputation and results of operations.
- We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.
- If we are unable to obtain and maintain patent protection for any product candidates we develop or for other proprietary technologies we may develop, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize product candidates and technology similar or identical to our product candidates and technology, and our ability to successfully commercialize any product candidates we may develop, and our technology may be adversely affected.
- We rely on in-license agreements for patent rights with respect to our product candidates and may in the future acquire additional third-party intellectual property rights on which we may similarly rely. We

face risks with respect to such reliance, including the risk that we could lose these rights that are important to our business if we fail to comply with our obligations under these licenses.

- The COVID-19 pandemic may affect our ability to initiate and complete preclinical studies, delay the initiation of our planned and any future clinical trials, disrupt regulatory activities, or have other adverse effects on our business and operations. In addition, this pandemic has caused substantial disruption in the financial markets and may adversely impact economies worldwide, each of which could result in adverse effects on our business, on raising capital and on our operations.

#### **Reorganization**

We are a Delaware corporation that was incorporated on June 18, 2020 under the name Xilio Therapeutics, Inc. On June 30, 2020, we completed a series of transactions, which we refer to as the “Reorganization,” pursuant to which Xilio Therapeutics LLC, or Xilio LLC, became a direct, wholly owned subsidiary of Xilio Therapeutics, Inc., and all of the outstanding equity securities of Xilio LLC were exchanged for equity securities of Xilio Therapeutics, Inc. The purpose of the Reorganization was to reorganize our corporate structure so that our existing investors would own capital stock in a corporation rather than equity interests in a limited liability company. As part of the Reorganization:

- holders of Xilio LLC’s outstanding Series A preferred units received one share of our Series A convertible preferred stock for each Series A preferred unit held immediately prior to the Reorganization, with an aggregate of 7,500,000 shares of our Series A convertible preferred stock issued in the Reorganization;
- holders of Xilio LLC’s outstanding Series A-1 preferred units received one share of our Series A-1 preferred stock for each Series A-1 preferred unit held immediately prior to the Reorganization, with an aggregate of 19,565,216 shares of our Series A-1 convertible preferred stock issued in the Reorganization;
- holders of Xilio LLC’s outstanding Series B preferred units received one share of our Series B convertible preferred stock for each Series B preferred unit held immediately prior to the Reorganization, with an aggregate of 39,723,312 shares of our Series B convertible preferred stock issued in the Reorganization;
- holders of Xilio LLC’s outstanding common units received one share of our common stock for each common unit held immediately prior to the Reorganization, with an aggregate of 409,303 shares of our common stock exchanged for common units in the Reorganization; and
- holders of Xilio LLC’s outstanding incentive units received shares of our restricted common stock in an amount equal in value to the value of such incentive units as determined by the applicable provisions of the Xilio LLC operating agreement in effect immediately prior to the Reorganization, with an aggregate of 552,546 shares of our restricted common stock issued in the Reorganization.

Except as otherwise indicated herein or as the context otherwise requires, all information in this prospectus is presented after giving effect to the Reorganization.

#### **Company and Corporate Information**

Our principal executive offices are located at 828 Winter Street, Suite 300, Waltham, Massachusetts 02451, and our telephone number is (617) 430-4680. Our website address is [www.xiliotx.com](http://www.xiliotx.com). The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

The Xilio Therapeutics name is our trademark. We own or have rights to, or have applied for, trademarks, service marks and trade names that we use in connection with the operation of our business, including our corporate name, logos and website names. Other trademarks, service marks and trade names appearing in this prospectus are the property of their respective owners. Solely for convenience, some of the trademarks, service marks and trade names referred to in this prospectus are listed without the ® and ™ symbols, but we will assert, to the fullest extent under applicable law, our rights to our trademarks, service marks and trade names.

**Implications of Being an Emerging Growth Company and a Smaller Reporting Company**

We are an “emerging growth company” as defined by U.S. federal securities laws. As a result, we are able to take advantage of certain reduced reporting requirements that are otherwise applicable to public companies, including delaying auditor attestation of internal control over financial reporting, providing only two years of audited financial statements and related Management’s Discussion and Analysis of Financial Condition and Results of Operations and reduced executive compensation disclosures.

We may remain an emerging growth company until the end of 2026. However, if certain events occur prior to the end of 2026, including if we become a “large accelerated filer” under SEC rules, our annual gross revenue exceeds \$1.07 billion, or we issue more than \$1 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of 2026.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation related information that would be required if we were not an emerging growth company. As a result, the information that we provide to our stockholders may be different than what you might receive from other public reporting companies in which you hold equity interests. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have elected not to “opt out” of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we can adopt the new or revised standard at the time private companies adopt the new or revised standard and may do so until such time that we either (1) irrevocably elect to “opt out” of such extended transition period or (2) no longer qualify as an emerging growth company.

We are also a “smaller reporting company,” meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than \$700 million and our annual revenue was less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than \$700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and have reduced disclosure obligations regarding executive compensation, and, similar to emerging growth companies, if we are a smaller reporting company with less than \$100 million in annual revenue, we would not be required to obtain an attestation report on internal control over financial reporting issued by our independent registered public accounting firm.

**Charitable Donation to Life Science Cares Boston**

At Xilio Therapeutics, we believe that our first responsibility is to patients living with cancer. We equally believe that we are responsible to the communities in which we operate and for ensuring that we do our part in addressing key areas of social need, including poverty. Consistent with these core beliefs, we intend to donate \$50,000 from the net proceeds of this offering to Life Science Cares Boston, a 501(c)(3) charitable organization whose mission is to leverage the intellectual, financial, and human capital of the life sciences industry in an effort to reduce the effects of poverty. Life Science Cares Boston does this by making financial, multi-year grants to a cohort of nonprofits in our community while also recruiting volunteers and directing donated goods to their organizations with the goal of creating an efficient model of support that both increases the capacity of nonprofits to serve while providing valuable team-building and corporate social responsibility benefits for companies. René Russo, Pharm.D., our president and chief executive officer and a member of our board of directors, has been honored to serve on the board of directors of Life Science Cares since 2016.

## THE OFFERING

*This summary highlights information presented in greater detail elsewhere in this prospectus. This summary is not complete and does not contain all the information you should consider before investing in our common stock. You should carefully read this entire prospectus before investing in our common stock including “Risk Factors” and our financial statements.*

<b>Common stock offered by us</b>	7,353,000 shares
<b>Common stock to be outstanding immediately following this offering</b>	26,666,008 shares (or 27,768,958 shares if the underwriters exercise in full their option to purchase additional shares)
<b>Option to purchase additional shares offered by us</b>	1,102,950 shares
<b>Use of proceeds</b>	<p>We estimate that the net proceeds from this offering will be approximately \$112.1 million (or approximately \$129.5 million if the underwriters exercise their option to purchase additional shares in full), based on an assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.</p> <p>We intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, to advance the development of XTX202 through Phase 1 dose escalation and Phase 2 efficacy cohorts of our planned Phase 1/2 trial in patients with solid tumors; to advance the development of XTX301 through IND-enabling studies, submission of an IND to the FDA and into initial Phase 1 development; to advance the development of XTX101 through Phase 1 dose escalation and to initiate activities for Phase 2 development; and to advance additional tumor-selective cytokine programs and for working capital and other general corporate purposes. See “Use of Proceeds.”</p>
<b>Risk factors</b>	See “Risk Factors” and other information included in this prospectus for a discussion of factors to consider before deciding to invest in our common stock.
<b>Proposed Nasdaq Global Market symbol</b>	“XLO”
<p>The number of shares of our common stock to be outstanding after this offering is based on 914,760 shares of our common stock outstanding as of September 30, 2021, which includes 135,811 shares of unvested restricted common stock subject to forfeiture, and gives effect to the automatic conversion of all outstanding shares of our convertible preferred stock into 18,398,248 shares of our common stock upon the closing of this offering.</p> <p>The number of shares of our common stock to be outstanding after this offering excludes:</p> <ul style="list-style-type: none"> <li>• 3,391,136 shares of common stock issuable upon exercise of stock options outstanding as of September 30, 2021 at a weighted average exercise price of \$7.03 per share;</li> <li>• 429,109 shares of common stock reserved for future issuance under our 2020 Stock Incentive Plan, as amended, or the 2020 Plan, as of September 30, 2021; and</li> <li>• 2,654,828 and 292,031 additional shares of our common stock that will become available for future issuance under our 2021 Stock Incentive Plan (of which our board of directors has granted options to purchase an aggregate of 498,988 shares of common stock to certain of our executive officers and non-employee directors effective upon the commencement of trading of our common stock on the</li> </ul>	

Nasdaq Stock Market with an exercise price per share equal to the price at which shares of common stock are to be sold to the public in this offering) and our 2021 Employee Stock Purchase Plan, respectively, each of which will become effective immediately prior to the effectiveness of the registration statement of which this prospectus is a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under these plans.

Unless otherwise indicated, all information in this prospectus assumes:

- a one-for-9.5 reverse stock split of our common stock, which was effected on October 15, 2021, and a proportionate adjustment in the ratios at which our preferred stock is convertible into common stock;
- the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 18,398,248 shares of our common stock upon the closing of this offering;
- the outstanding warrant to purchase shares of Series A convertible preferred stock becoming a warrant to purchase 2,631 shares of common stock upon the closing of this offering;
- no exercise of the outstanding options described above;
- no exercise by the underwriters of their option to purchase additional shares of our common stock; and
- the filing and effectiveness of our restated certificate of incorporation and the adoption of our amended and restated bylaws upon the closing of this offering.

## SUMMARY CONSOLIDATED FINANCIAL DATA

The following summary consolidated financial data should be read in conjunction with our consolidated financial statements and the related notes appearing elsewhere in this prospectus and the “Selected Consolidated Financial Data” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” sections of this prospectus. We have derived the consolidated statement of operations data for the years ended December 31, 2019 and 2020 from our audited consolidated financial statements appearing elsewhere in this prospectus. The consolidated statement of operations data for the six months ended June 30, 2020 and 2021 and the consolidated balance sheet data as of June 30, 2021 have been derived from our unaudited condensed consolidated financial statements appearing elsewhere in this prospectus and have been prepared on the same basis as the audited consolidated financial statements. In the opinion of management, the unaudited data reflects all adjustments, consisting only of normal, recurring adjustments, necessary for a fair statement of the financial information in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and our interim results are not necessarily indicative of results to be expected for a full fiscal year or any other interim period.

	Year Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
(in thousands, except unit and share and per unit and per share data)				
<b>Consolidated Statement of Operations Data:</b>				
Operating expenses:				
Research and development	\$ 14,256	\$ 43,910	\$ 14,783	\$ 29,366
General and administrative	4,771	10,653	4,562	10,161
Total operating expenses	19,027	54,563	19,345	39,527
Loss from operations	(19,027)	(54,563)	(19,345)	(39,527)
Gain on tranche rights	1,739	—	—	—
Other expense, net	(23)	(656)	(283)	(321)
Net loss	\$ (17,311)	\$ (55,219)	\$ (19,628)	\$ (39,848)
Net loss per unit, basic and diluted <sup>(1)</sup>	\$ (42.29)			
Net loss per share, basic and diluted <sup>(1)</sup>		\$ (105.42)	\$ (47.84)	\$ (55.16)
Weighted-average common units outstanding, basic and diluted <sup>(1)</sup>	409,303			
Weighted average common shares outstanding, basic and diluted <sup>(1)</sup>		523,786	410,310	722,424
Pro forma net loss per share, basic and diluted (unaudited) <sup>(2)</sup>		\$ (7.47)		\$ (2.41)
Pro forma weighted average number of common shares outstanding used in net loss per share, basic and diluted (unaudited) <sup>(2)</sup>		7,429,110		16,577,420

(1) See Note 15 to our annual consolidated financial statements and Note 10 to our unaudited interim condensed consolidated financial statements appearing elsewhere in this prospectus for details on the calculation of basic and diluted net loss per unit or per share.

(2) The unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2020 and six months ended June 30, 2021 were computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the automatic conversion of all outstanding shares of convertible preferred stock into shares of common stock on the later of January 1, 2020 or the date the equity instruments were issued. The unaudited pro forma net loss used in the calculation of unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2020 and six months ended June 30, 2021 include (i) adjustments to the equity-based compensation expense related to certain stock option awards with vesting conditions that are contingent upon the closing of this offering, in the amount of approximately \$61 and \$224 for each period, respectively, (ii) adjustments to other expense related to historical fair value adjustments recorded to our warrant liability which is replaced by an equity warrant upon the closing of this offering, and (iii) adjustments to other expense to record additional expense related to the

contingent payments payable upon the closing of this offering, excluding any impact from the September 2021 amendment to our loan and security agreement with Pacific Western Bank, or PacWest. The unaudited pro forma basic and diluted net loss per share does not include the shares sold in or related proceeds received from this offering.

	As of June 30, 2021		
	Actual	Pro Forma <sup>(1)</sup>	Pro Forma As Adjusted <sup>(2)</sup>
(in thousands)			
<b>Consolidated Balance Sheet Data:</b>			
Cash and cash equivalents	\$ 120,299	\$ 120,299	\$ 232,349
Working capital <sup>(3)</sup>	103,281	102,281	214,331
Total assets	140,024	140,024	252,074
Notes payable, current and noncurrent	9,481	9,481	9,481
Convertible preferred stock	222,888	—	—
Total stockholders' equity (deficit)	(121,309)	101,449	213,499

(1) The pro forma balance sheet data give effect to (i) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 18,398,248 shares of our common stock upon the closing of this offering, (ii) the automatic conversion of the outstanding warrant to purchase shares of Series A convertible preferred stock into a warrant to purchase shares of common stock and the resulting reclassification of the warrant liability to additional paid-in capital, (iii) the vesting of performance-based stock option awards with vesting conditions that are contingent upon the closing of this offering and the resulting recognition of equity-based compensation expense, and (iv) the increase in other expense related to contingent payments payable upon the closing of this offering, excluding any impact from the September 2021 amendment to our loan and security agreement with PacWest, and the reclassification of such payables to current liabilities.

(2) The pro forma as adjusted balance sheet data give further effect to our issuance and sale of 7,353,000 shares of our common stock in this offering at an assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) We define working capital as current assets less current liabilities. See our consolidated financial statements and related notes appearing elsewhere in this prospectus for further details regarding our current assets and current liabilities.

The pro forma as adjusted information discussed above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. A \$1.00 increase (decrease) in the assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity by \$6.8 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity by \$15.8 million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.



## RISK FACTORS

*Investing in our common stock is speculative and involves a high degree of risk. Before investing in our common stock, you should carefully consider the risks described below, as well as the other information in this prospectus, including our financial statements and the related notes and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The occurrence of any of the events or developments described below could materially and adversely affect our business, financial condition, results of operations and future growth prospects. In such an event, the market price of our common stock could decline and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations. This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a number of factors, including the risks described below. See “Cautionary Note Regarding Forward-Looking Statements.”*

### **Risks Related to Our Limited Operating History, Financial Position and Capital Requirements**

***We have incurred significant operating losses since our inception and expect to incur significant losses for the foreseeable future.***

We have incurred significant operating losses since our inception and have not yet generated any revenue. If our product candidates are not successfully developed and approved, we may never generate any revenue. Our net losses were \$17.3 million and \$55.2 million for the years ended December 31, 2019 and 2020, respectively, and \$39.8 million for the six months ended June 30, 2021. As of June 30, 2021, we had an accumulated deficit of \$124.9 million. To date, we have funded our operations primarily through proceeds from the sale of preferred units and convertible preferred stock and a debt financing. We have devoted substantially all of our financial resources and efforts to research and development. We are still in the early stages of development of our product candidates, and we have not commenced or completed clinical development. We have not generated any revenue from product sales to date. We expect to continue to incur significant expenses and operating losses over the next several years. Our operating expenses and net losses may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase significantly in connection with our ongoing activities, particularly as we:

- continue to advance our current research programs and conduct additional research programs;
- advance our current product candidates and any future product candidates we may develop into preclinical and clinical development;
- seek marketing approvals for any product candidates that successfully complete clinical trials;
- obtain, expand, maintain, defend and enforce our intellectual property;
- hire additional research, clinical, regulatory, quality, manufacturing and general and administrative personnel;
- establish a commercial and distribution infrastructure to commercialize any products for which we may obtain marketing approval;
- continue to discover, validate and develop additional product candidates;
- continue to manufacture increasing quantities of our current or future product candidates for use in preclinical studies, clinical trials and for any potential commercialization;
- acquire or in-license other product candidates, technologies or intellectual property; and
- incur additional costs associated with current and future research, development and commercialization efforts and operations as a public company.

Even if we successfully complete clinical trials and obtain regulatory approval for one or more of our product candidates, our product candidates may not be commercially successful. In addition, we will continue to incur substantial research and development and other expenditures to develop and market additional product candidates. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. We may not achieve profitability soon after generating product

sales, if ever. If we are unable to generate revenue, we will not become profitable and may be unable to continue operations without continued funding.

***We have no products approved for commercial sale and have not generated any revenue from product sales. We may never generate any revenue or become profitable and, if we achieve profitability, we may not be able to sustain it.***

To date, we have not generated any revenue from our product candidates or product sales, we do not expect to generate any revenue from the sale of products for a number of years, and we may never generate revenue from the sale of products. Our ability to generate product revenue depends on a number of factors, including our ability to:

- successfully complete our ongoing and planned preclinical studies for any current or future product candidates;
- successfully receive FDA clearance for our investigational new drug application, or IND, for XTX202 and any other current or future product candidates;
- successfully initiate and complete clinical trials for XTX101, XTX202 and any other current or future product candidates, including all safety and efficacy studies necessary to obtain U.S. and foreign regulatory approval for our product candidates;
- establish clinical and commercial manufacturing capabilities or make arrangements with third party manufacturers for clinical supply and commercial manufacturing;
- launch commercial sales of our products, if and when approved, whether alone or in collaboration with others;
- obtain and maintain acceptance of the products, if and when approved, by patients, the medical community and third-party payors;
- effectively compete with other therapies;
- obtain and maintain healthcare coverage and adequate reimbursement;
- maintain a continued acceptable safety profile of our products following approval; and
- enforce and defend intellectual property rights and claims.

Because of the numerous risks and uncertainties associated with biopharmaceutical product development, we are unable to accurately predict the timing or amount of expenses we may incur in connection with these activities prior to generating product revenue. In addition, we may never succeed in these activities, and, even if we do, may never generate revenues that are significant enough to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our product candidates or even continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

***Even if this offering is successful, we will need to obtain substantial additional funding to finance our operations and complete the development and any commercialization of any current or future product candidates. If we are unable to raise this capital when needed, we may be forced to delay, reduce or eliminate one or more of our research and development programs or other operations.***

We expect to incur increasing expenses and operating losses over the next several years in connection with our ongoing research and development activities, particularly as we pursue clinical development of our product candidates, expand research efforts and preclinical activities associated with our other existing programs and discovery platform and implement the additional infrastructure necessary to support our operations as a public reporting company. Our revenue, if any, will be derived from sales of products that we do not expect to be commercially available for a number of years, if at all. If we obtain marketing approval for any current or future product candidates that we develop, we expect to incur significant commercialization expenses related

to product sales, marketing, distribution and manufacturing. Some of these expenses may be incurred in advance of marketing approval and could be substantial.

As of June 30, 2021, we had cash and cash equivalents of \$120.3 million. We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to fund our operating expenses, debt repayment obligations and capital expenditure requirements into 2024. In particular, we expect that the net proceeds from this offering will allow us to advance the development of XTX202 through Phase 1 dose escalation and Phase 2 efficacy cohorts of our planned Phase 1/2 trial in patients with solid tumors; advance the development of XTX301 through investigational new drug application, or IND, enabling studies, the submission of an IND to the U.S. Food and Drug Administration and into initial Phase 1 development; advance the development of XTX101 through Phase 1 dose escalation and to initiate activities for Phase 2 development; and advance additional tumor-selective cytokine programs.

The net proceeds of this offering, together with our existing cash and cash equivalents, will not be sufficient to complete development of any current or future product candidate. Accordingly, we will be required to obtain further funding through public or private equity offerings, debt financings, collaborations, licensing arrangements or other sources. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed, on attractive terms or at all, would have a negative effect on our financial condition and our ability to develop and commercialize our current and any future product candidates, and otherwise pursue our business strategy and we may be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts.

In addition, our cash forecasts are based on assumptions that may prove to be wrong, and we could use our available capital resources earlier than we currently expect. Changing circumstances could cause us to consume capital significantly faster than we currently anticipate, and we may need to seek additional financing sooner than planned. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Our future capital requirements, both short-term and long-term, will depend on many factors, including:

- the scope, progress, results and costs of research and development for our current and future product candidates, including our ongoing and planned clinical trials for our most advanced product candidates, XTX101 and XTX202, and ongoing preclinical development for our product candidates XTX301 and XTX401;
- the scope, prioritization and number of our research and development programs;
- the scope, costs, timing and outcome of regulatory review of our product candidates;
- the costs of securing manufacturing materials for use in preclinical studies, clinical trials and, for any product candidates for which we receive regulatory approval, use as commercial supply;
- our ability to seek, establish and maintain a collaboration to develop XTX101 with a collaborator, including the financial terms and any cost-sharing arrangements of any such collaboration;
- the costs and timing of future commercialization activities for any of our product candidates for which we receive regulatory approval;
- the amount and timing of revenue, if any, received from commercial sales of any product candidates for which we receive regulatory approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property and proprietary rights and defending any intellectual property-related claims;
- the extent to which we may acquire or in-license other products, product candidates, technologies or intellectual property, as well as the terms of any such arrangements;
- the impacts of the COVID-19 pandemic; and
- the costs of continuing to expand our operations and operating as a public company.

We do not currently have any committed external source of funds and adequate additional financing may not be available to us on acceptable terms, or at all. In addition, our ability to raise additional capital may be

adversely impacted by potential worsening global economic conditions resulting from the ongoing COVID-19 pandemic and any disruptions to, or volatility in, the credit and financial markets in the United States and worldwide that arise from the pandemic. Our failure to raise capital as and when needed or on acceptable terms would have a negative impact on our financial condition and our ability to pursue our business strategy, and we may have to delay, reduce the scope of, suspend or eliminate one or more of our research-stage programs, clinical trials or future commercialization efforts or other operations.

***Raising additional capital may cause dilution to our stockholders, including purchasers of shares in this offering, restrict our operations or require us to relinquish rights to product candidates or our technology.***

Unless and until we can generate a substantial amount of product revenue, we expect to seek additional capital through a combination of public or private equity offerings, debt financings, collaborations, licensing arrangements or other sources. Our issuance of additional securities, whether equity or debt, or the possibility of such issuance, may cause the market price of our common stock to decline, and our stockholders may not agree with our financing plans or the terms of such financings. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a stockholder. To the extent that we incur additional indebtedness, we would become obligated to make payments to repay the loan balance with interest. The incurrence of any additional indebtedness would result in additional payment obligations. Under our loan and security agreement with Pacific Western Bank, we are required to comply with certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to declare dividends, limitations on our ability to sell or dispose any part of our business or property and other operating restrictions that could adversely impact our ability to conduct our business, and any agreements governing any other indebtedness that we may incur could require us to comply with additional covenants. If we raise funds through collaborations and licensing arrangements with third parties, we may have to relinquish valuable rights, partially or fully, to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms unfavorable to us. In addition, securing additional financing would require a substantial amount of time and attention from our management and may divert a disproportionate amount of their attention away from day-to-day activities, which may adversely affect our management's ability to oversee the development of our product candidates.

***Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.***

We are an early-stage biopharmaceutical company with a limited operating history upon which you can evaluate our business and prospects. Since inception, we have devoted substantially all of our financial resources and efforts to performing research and development activities. Our approach to the discovery and development of product candidates using our geographically precise solutions, or GPS, platform is unproven, and we do not know whether we will be able to develop any approved products of commercial value. In addition, each of our product candidates is either in early clinical or preclinical development, and all of our other development programs are still in discovery stages. We have not yet demonstrated an ability to successfully complete any clinical trials, obtain regulatory approvals, manufacture a commercial-scale product, or arrange for a third party to do so on our behalf, or conduct the sales and marketing activities necessary for successful product commercialization. Consequently, any predictions made about our future success or viability may not be as accurate as they could be if we had a history of successfully developing and commercializing biopharmaceutical products.

***Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.***

We have incurred substantial losses during our history. As of December 31, 2020, we had federal and state net operating loss, or NOL, carryforwards of \$78.0 million and \$69.6 million, respectively. We do not anticipate generating revenue from sales of products for the foreseeable future, if ever, and we do not know whether or when we will generate taxable income necessary to utilize our NOLs.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, and corresponding provisions of state law, if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percentage point change (by value) in the ownership of its equity by certain stockholders

over a three-year period), the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income is subject to limitations. We have not yet completed a detailed study of our inception to date ownership change activity under Section 382 of the Code. As a result of our prior private placement financings or other transactions, we may have experienced such ownership changes in the past, and we may experience such ownership changes in the future as a result of this offering or other subsequent changes in our stock ownership, some of which are outside our control. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards and other pre-change tax attributes to offset such taxable income may be subject to limitations, which could result in increased future tax liability to us and could have an adverse effect on our future results of operations.

There is also a risk that due to regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise become unavailable to offset future income tax liabilities. As described below in "Risks Related to this Offering, Ownership of Our Common Stock and Our Status as a Public Company—Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition," the Tax Cuts and Jobs Act of 2017, or Tax Act, as amended by the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, includes changes to U.S. federal tax rates and the rules governing NOL carryforwards that may significantly impact our ability to utilize our NOLs to offset taxable income in the future. In addition, state NOLs generated in one state cannot be used to offset income generated in another state. For these reasons, even if we attain profitability, we may be unable to use a material portion of our NOLs and other tax attributes.

#### **Risks Related to the Discovery and Development of Our Product Candidates**

***Our business is highly dependent on the success of our current product candidates, which are in the early stages of development and will require significant additional preclinical and clinical development before we can seek regulatory approval for and commercially launch a product.***

Our business and future success is highly dependent on our ability to obtain regulatory approval for, and if approved, successfully launch and commercialize, our current product candidates, including our most advanced product candidates, XTX101 and XTX202. In June 2021, the FDA cleared our IND for XTX101, and in October 2021, the FDA cleared our IND for XTX202. Additionally, we have a portfolio of programs, including those described in the "Business—Our Pipeline" section of this prospectus, that are in even earlier stages of preclinical development and may never advance to clinical-stage development.

Commencing clinical trials in the United States is subject to acceptance by the FDA of an IND and finalizing the trial design based on discussions with the FDA and other regulatory authorities. In the event that the FDA requires us to complete additional preclinical studies or we are required to satisfy other FDA requests prior to commencing clinical trials, the start of our first clinical trials may be delayed. Even after we receive and incorporate guidance from these regulatory authorities, the FDA or other regulatory authorities could disagree that we have satisfied their requirements to commence any clinical trial or change their position on the acceptability of our trial design or the clinical endpoints selected, which may require us to complete additional preclinical studies or clinical trials or impose stricter approval conditions than we currently expect. There are equivalent processes and risks applicable to clinical trial applications in other countries, including countries in the European Union.

To date, we have only had limited interactions with the FDA regarding our clinical development plans. We may experience issues surrounding preliminary trial execution, such as delays in FDA acceptance of our planned INDs, revisions in trial design and finalization of trial protocols, difficulties with patient recruitment and enrollment, quality and provision of clinical supplies, or early safety signals.

We are not permitted to market any biological product in the United States until we receive approval of a Biologics License Application, or BLA, from the FDA. We have not previously submitted a BLA to the FDA, or similar marketing application to comparable foreign regulatory authorities. A BLA must include extensive preclinical and clinical data and supporting information to establish that the product candidate is safe, pure and potent for each desired indication. A BLA must also include significant information regarding the chemistry, manufacturing and controls for the product, and the manufacturing facilities must complete a successful pre-license inspection.

FDA approval of a BLA is not guaranteed, and the review and approval process is expensive, uncertain and may take several years. The FDA also has substantial discretion in the approval process. The number and types of preclinical studies and clinical trials that will be required for BLA approval varies depending on the product candidate, the disease or the condition that the product candidate is designed to treat and the regulations applicable to any particular product candidate. Despite the time and expense associated with preclinical studies and clinical trials, failure can occur at any stage.

The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support approval. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain approval of any product candidate that we develop based on the completed clinical trials.

Generally, public concern regarding the safety of biopharmaceutical products could delay or limit our ability to obtain regulatory approval, result in the inclusion of unfavorable information in our labeling or require us to undertake other activities that may entail additional costs. We have not obtained FDA approval for any product. This lack of experience may impede our ability to obtain FDA approval in a timely manner, if at all, for any current or future product candidates.

The success of our business, including our ability to finance our company and generate any revenue in the future, will primarily depend on the successful development, regulatory approval and commercialization of our current and any future product candidates, which may never occur. However, given our early stage of development, it will be years before we are able to demonstrate the safety and efficacy of a treatment sufficient to warrant approval for commercialization, and we may never be able to do so. If we are unable to develop, or obtain regulatory approval for, or, if approved, successfully commercialize our current or any future product candidates, we may not be able to generate sufficient revenue to continue our business.

***Preclinical development is uncertain. Our preclinical programs may experience delays or may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize these programs on a timely basis or at all, which would have an adverse effect on our business.***

In June 2021, the FDA cleared our IND for XTX101, and we recently initiated our Phase 1/2 trial to evaluate XTX101 in patients with solid tumors. In addition, the FDA cleared our IND for XTX202 in October 2021. All of our product candidates are still in the preclinical or early clinical stage, and their risk of failure is high. Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies that support our planned INDs in the United States, or similar applications in other jurisdictions. We cannot be certain of the timely completion or outcome of our preclinical testing and studies and cannot predict if the FDA or other regulatory authorities will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of our programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs beyond XTX101 and XTX202 on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin.

***Preclinical studies and clinical trials are expensive, time-consuming and difficult to design and implement, and involve uncertain outcomes. Furthermore, results of earlier preclinical studies and clinical trials may not be predictive of results of future preclinical studies or clinical trials.***

The risk of failure for our current and any future product candidates is high. It is impossible to predict when or if any of our product candidates will successfully complete preclinical studies or clinical trials evaluating their safety and effectiveness in humans or will ultimately receive regulatory approval. To obtain the requisite regulatory approvals to market and sell any of our product candidates, we must demonstrate through extensive preclinical studies and clinical trials that our product candidates are safe and effective in humans for use in each target indication. Preclinical and clinical testing is expensive and can take many years to complete, and the outcome is inherently uncertain. Failure can occur at any time during the preclinical or clinical trial process. The outcome of preclinical testing and early clinical trials may not be predictive of the results of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. In particular, while we have conducted certain preclinical studies of XTX101 and XTX202, we do not know whether either of these product candidates will perform in our planned clinical trials as it has performed in these prior preclinical

studies. For example, in preclinical mouse models, we observed XTX101 had tumor-selective activity and tumor growth inhibition superior to that of an ipilimumab analog, and that XTX202 had comparable tumor growth inhibition to aldesleukin and non-masked IL-2, with both XTX101 and XTX202 avoiding mortality and body weight loss. However, there is no guarantee these preclinical results will be replicated in clinical trials. Many companies in the biopharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, preclinical findings made while clinical trials were underway, or safety or efficacy observations made in preclinical studies and clinical trials, including previously unreported adverse events. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their products.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in clinical trial procedures set forth in protocols, differences in the size and type of the patient populations, adherence to the dosing regimen and other clinical trial protocols, and the rate of dropout among clinical trial participants. If we fail to produce positive results in our planned preclinical studies or clinical trials of any of our product candidates, the development timeline and regulatory approval and commercialization prospects for our product candidates, and, correspondingly, our business and financial prospects, would be materially and adversely affected.

***We may encounter substantial delays in the commencement or completion, or termination or suspension, of our clinical trials, which could result in increased costs to us, delay or limit our ability to generate revenue and adversely affect our commercial prospects.***

Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidate for its intended indications. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. We may experience numerous unforeseen events during or as a result of clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including:

- we may be unable to generate sufficient preclinical, toxicology, or other *in vivo* or *in vitro* data to obtain regulatory authorizations to commence a clinical trial;
- we may experience issues in reaching a consensus with regulatory authorities on trial design;
- regulators or institutional review boards, or IRBs, or ethics committees may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with prospective trial sites and prospective contract research organizations, or CROs, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical trial sites may deviate from a trial protocol or drop out of a trial or fail to conduct the trial in accordance with regulatory requirements;
- the number of subjects required for clinical trials of our product candidates may be larger than we anticipate or subjects may fail to enroll or remain in clinical trials at the rate we expect;
- subjects that enroll in our studies may misrepresent their eligibility or may otherwise not comply with the clinical trial protocol, resulting in the need to drop the subject from the trial, increase the needed enrollment size for the clinical trial or extend its duration;
- subjects may choose an alternative treatment for the indication for which we are developing our product candidates, or participate in competing clinical trials;
- subjects may experience severe or unexpected drug-related adverse effects;
- clinical trials of our product candidates may produce unfavorable, inconclusive, or clinically insignificant results;

- we may decide to, or regulators or IRBs or ethics committees may require us to, make changes to a clinical trial protocol or conduct additional preclinical studies or clinical trials, or we may decide to abandon product development programs;
- we may need to add new or additional clinical trial sites;
- our third-party contractors, including those manufacturing our product candidates or conducting clinical trials on our behalf, may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- we may experience manufacturing delays, and any changes to manufacturing processes or third party contractors that may be necessary or desired could result in other delays;
- we or our third party contractors may experience delays due to complications associated with the continuing COVID-19 pandemic;
- the cost of preclinical testing and studies and clinical trials of any product candidates may be greater than we anticipate or greater than our available financial resources;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate or we may not be able to obtain sufficient quantities of combination therapies for use in clinical trials;
- reports may arise from preclinical or clinical testing of other cancer therapies that raise safety or efficacy concerns about our product candidates; and
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate.

If we are required to conduct additional clinical trials or other testing of our product candidates beyond the clinical trials and testing that we contemplate, if we are unable to successfully complete clinical trials or other testing of our product candidates, if the results of these clinical trials or tests are unfavorable or are only modestly favorable or if there are safety concerns associated with any of product candidates, we may:

- incur additional unplanned costs;
- be required to suspend or terminate ongoing clinical trials;
- be delayed in obtaining marketing approval, if at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to additional post-marketing testing or other requirements;
- be required to perform additional clinical trials to support approval;
- have regulatory authorities withdraw, or suspend, their approval of the drug or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy, or REMS;
- be subject to the addition of labeling statements, such as warnings or contraindications;
- have the product removed from the market after obtaining marketing approval;
- be subject to lawsuits; or
- experience damage to our reputation.

Conducting clinical trials in foreign countries, as we may do for our product candidates, presents additional risks that may delay completion of our clinical trials. These risks include the failure of enrolled patients in foreign countries to adhere to clinical protocols as a result of differences in healthcare services or cultural customs, managing additional administrative burdens associated with foreign regulatory schemes, as well as political and economic risks relevant to such foreign countries.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we



may be required to report some of these relationships to the FDA or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authority may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the trial. The FDA or comparable foreign regulatory authority may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA or comparable foreign regulatory authorities, as the case may be, and may ultimately lead to the denial of marketing approval of one or more of our product candidates.

In addition to the factors above, we may make formulation or manufacturing changes to our product candidates, in which case we may need to conduct additional preclinical studies to bridge our modified product candidates to earlier versions, which may be costly, time consuming and may not be successful at all.

Our failure to successfully initiate and complete clinical trials of our product candidates and to demonstrate the efficacy and safety necessary to obtain regulatory approval to market any of our product candidates would significantly harm our business. We cannot assure you that our clinical trials will begin as planned or be completed on schedule, if at all, or that we will not need to restructure our clinical trials. Significant preclinical study or clinical trial delays could also shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do and impair our ability to successfully commercialize our product candidates, which may harm our business and results of operations. In addition, many of the factors that cause, or lead to, delays of clinical trials may ultimately lead to the denial of regulatory approval of our product candidates.

***If we experience delays or difficulties in the enrollment of patients in clinical trials, our clinical development activities could be delayed or otherwise adversely affected.***

We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The enrollment of patients depends on many factors, including:

- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new products that may be approved for the indications we are investigating;
- the severity of the disease under investigation;
- the patient eligibility and the inclusion and exclusion criteria defined in the protocol;
- adverse events in our clinical trials and in third-party clinical trials of agents similar to our product candidates;
- the size and health of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to trial sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- our ability to obtain and maintain patient consents;
- our ability to monitor patients adequately during and after treatment;
- the risk that patients enrolled in clinical trials will drop out of the trials before completion; and
- factors we may not be able to control, including the impacts of the COVID-19 pandemic, that may limit the availability of patients, principal investigators or staff or clinical sites.

In addition, our clinical trials will compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in

a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial site.

Our inability to enroll a sufficient number of patients for our clinical trials would result in significant delays or might require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates, slow down or halt our product candidate development and approval process and jeopardize our ability to seek and obtain the marketing approval required to commence product sales and generate revenue, which would cause the value of our company to decline and limit our ability to obtain additional financing, if needed.

***Our product candidates may cause undesirable or unexpectedly severe side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.***

Undesirable or unexpectedly severe side effects caused by our product candidates could cause us to interrupt, delay or halt preclinical studies or could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. Traditional cytokine therapies and checkpoint inhibitors have long been associated with severe toxicities, which can be life-threatening or fatal, that have resulted in the need to dose-reduce, dose-interrupt and discontinue many patients from treatment. As has been the case with traditional I-O treatments for cancer, it is possible that there may be side effects associated with the use of our current or future product candidates. Results of our trials could reveal a high and unacceptable severity and prevalence of these or other side effects. In such an event, our trials could be suspended or terminated, and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of our product candidates for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

In addition, clinical trials rely on a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered when a significantly larger number of patients is exposed to the product candidate. If our product candidates receive marketing approval and we or others identify undesirable side effects caused by such product candidates after such approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may require the addition of labeling statements, such as a “black box” warning or a contraindication;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- regulatory authorities may require a REMS plan to mitigate risks, which could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools;
- we may be required to change the way such product candidates are distributed or administered, conduct additional clinical trials or change the labeling of the product candidates;
- we may be subject to regulatory investigations and government enforcement actions;
- regulatory authorities may withdraw or limit their approval of such product candidates;
- we may decide to remove such product candidates from the marketplace;
- we could be sued and held liable for injury caused to individuals exposed to or taking our product candidates; and
- we may suffer reputational harm.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and could significantly harm our business, results of operations and prospects.

***Interim top-line and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.***

From time to time, we may publish interim top-line or preliminary data from our clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Preliminary or “top-line” data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects.

***We expect to develop certain of our product candidates in combination with third-party drugs and we will have limited or no control over the safety, supply, regulatory status or regulatory approval of such drugs.***

We intend to develop XTX101 and XTX202, and likely other future product candidates, in combination with third-party cancer drugs, which may be either approved or unapproved. For example, we plan to conduct clinical trials of XTX202 both as monotherapy and in combination with other agents potentially including, but not limited to, anti-PD-1 agents or tyrosine kinase inhibitors, or TKIs, and we plan to conduct clinical trials of XTX101 both as a monotherapy and in combination with KEYTRUDA<sup>®</sup> (pembrolizumab), an anti-PD-1 agent. Our ability to develop and ultimately commercialize our current product candidates, and any future product candidates, used in combination with third-party drugs will depend on our ability to access such drugs on commercially reasonable terms for clinical trials and their availability for use with our commercialized product, if approved. We cannot be certain that current or potential future commercial relationships will provide us with a steady supply of such drugs on commercially reasonable terms or at all. Any failure to maintain or enter into new successful commercial relationships, or the expense of purchasing such third-party drugs in the market, may delay our development timelines, increase our costs and jeopardize our ability to develop our current product candidates and any future product candidates as commercially viable therapies. If any of these occur, our business, financial condition, operating results, or prospects may be materially harmed.

Moreover, the development of product candidates for use in combination with another product or product candidate may present challenges that are not faced for single agent product candidates. For example, our planned clinical trials for XTX202 in combination with other agents, including anti-PD-1 or TKIs may result in adverse events based on the combination therapy that may negatively impact the reported safety profile of the monotherapy in such clinical trials. In addition, the FDA or comparable foreign regulatory authorities may require us to use more complex clinical trial designs in order to evaluate the contribution of each product and product candidate to any observed effects. It is possible that the results of such trials could show that any positive previous trial results are attributable to the third-party drug and not our product candidate. Developments related to the third-party drug may also impact our clinical trials for the combination as well as our commercial prospects should we receive regulatory approval. Such developments may include changes to the third-party drug’s safety or efficacy profile, changes to the availability of the third-party drug, quality, and manufacturing and supply issues with respect to the third-party drug.

If we are able to obtain marketing approval, the FDA or comparable foreign regulatory authorities may require that products used in conjunction with each other be cross labeled for combined use. To the extent that we do not have rights to the third-party drug, this may require us to work with such third party to satisfy such a requirement. We would also continue to be subject to the risks that the FDA or comparable foreign regulatory authorities could revoke approval of the third-party drug used in combination with our product candidate or that safety, efficacy, manufacturing or supply issues could arise with such drug. Similarly, if the third-party drugs we use in combination with our product candidates are replaced as the standard of care for the indications we choose for any of our product candidates, the FDA or comparable foreign regulatory authorities may require us to conduct additional clinical trials. The occurrence of any of these risks could result in our own products, if approved, being removed from the market or being less successful commercially.

***We may not be successful in our efforts to use our GPS platform to enable the development of a pipeline of product candidates.***

A key element of our strategy is to use our novel GPS platform to engineer and develop molecules with the potential to trigger anti-tumor immunity with minimal systemic toxicity in order to build a pipeline of product candidates. We may not be able to continue to identify and develop novel immuno-oncology therapies. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify may not be suitable for clinical development. For example, potential product candidates may be shown to have harmful side effects or other characteristics that indicate that they are unlikely to or will not be drugs that will receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize product candidates based upon our GPS platform approach or take longer to do so than anticipated, we will not or may not be able to obtain drug revenues in future periods, which likely would result in significant harm to our financial position and adversely affect our stock price.

***We may not be successful in our efforts to identify or discover additional product candidates.***

Although we intend to explore other therapeutic opportunities in addition to the product candidates that we are currently developing, we may fail to identify or discover viable new product candidates for clinical development for a number of reasons. If we fail to identify additional potential product candidates, our business could be materially harmed.

Research programs to pursue the development of our existing and planned product candidates for additional indications and to identify new product candidates and disease targets require substantial technical, financial and human resources whether or not they are ultimately successful. We may in the future rely on third parties for certain research, and we will not have complete control over their performance and ability to successfully develop product candidates. Our research programs may initially show promise in identifying potential indications and/or product candidates, yet fail to yield results for clinical development for a number of reasons, including:

- the research methodology used may not be successful in identifying potential indications and/or product candidates;
- potential product candidates may, after further study, be shown to have harmful adverse effects or other characteristics that indicate they are unlikely to be effective drugs; and
- it may take greater human and financial resources than we will possess to identify additional therapeutic opportunities for our product candidates or to develop suitable potential product candidates through internal research programs, thereby limiting our ability to develop, diversify and expand our product portfolio.

Accordingly, there can be no assurance that we will ever be able to identify additional therapeutic opportunities for our current product candidates or to develop suitable additional product candidates through internal research programs, which could materially adversely affect our future growth and prospects.

***Our approach to the discovery and development of product candidates based on our technological approaches is unproven, and we do not know whether we will be able to develop any products of commercial value.***

The success of our business depends primarily upon our ability to discover, develop and commercialize products based on our technological approaches. While we have had favorable preclinical study results related to XTX101 and XTX202, we have not yet succeeded and may not succeed in demonstrating efficacy and safety for any product candidates in clinical trials or in obtaining marketing approval thereafter. We rely on matrix metalloproteases, or MMPs, to activate our molecules within the tumor microenvironment. If MMP activity in human tumors is not sufficient to cleave the masking protein domain, the potential efficacy of our product candidates would be limited. We have no assurance that our product candidates will successfully progress from preclinical studies into clinical development and ultimately marketing approval. We have invested substantially all of our efforts and financial resources in developing our initial product candidates and our future success is highly dependent on the continued successful development of our technology and product candidates.

In addition, the clinical trial requirements of the FDA and other regulatory agencies and the criteria these regulators use to determine the safety and efficacy of a product candidate may vary according to the type, complexity, novelty and intended use and market of the potential products. The regulatory approval process for novel product candidates can be more expensive and take longer than for other, better known or extensively studied pharmaceutical or other product candidates. As a result, we may face a greater regulatory burden to initiate clinical trials or to obtain regulatory approval of our product candidates as compared to product candidates based on more established technology. In addition, any product candidates for which we may be able to obtain marketing approval may be subject to extensive post-approval regulatory requirements, including requirements pertaining to manufacturing, distribution and promotion. We may need to devote significant time and resources to compliance with these requirements.

***We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.***

We have chosen to initially develop our most advanced product candidates, XTX101 and XTX202, for the treatment of solid tumors. Nevertheless, our development efforts will be limited to a small number of cancer types and we may forego or delay pursuit of opportunities in other cancer types that may prove to have greater potential. Likewise, we may forego or delay the pursuit of opportunities with other potential product candidates that may prove to have greater commercial potential.

Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable product candidates. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other similar arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to the product candidate.

***We may become exposed to costly and damaging liability claims, either when testing our product candidates in the clinic or following commercial sale, and any product liability insurance we may obtain may not cover all damages from such claims.***

We are exposed to potential product liability risks that are inherent in the research, development, manufacturing, marketing and use of biopharmaceutical products. The use of product candidates by us in clinical trials, and any sale of approved products in the future, may expose us to liability claims. For example, we may be sued if our product candidates cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical trials, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts.

Although the clinical trial process is designed to identify and assess potential side effects, it is always possible that a drug, even after regulatory approval, may exhibit unforeseen side effects. If any of our product candidates were to cause adverse side effects during clinical trials or after approval thereof, we may be exposed to substantial liabilities. Physicians and patients may not comply with any warnings that identify known potential adverse effects and patients who should not use our product candidates. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit or cease the development or commercialization of our product candidates or any products for which we may have received marketing approval. Even a successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- delay or termination of clinical trials;
- decreased demand for any product candidates or products that we may develop;
- injury to our reputation and significant negative media and social media attention;
- withdrawal of clinical trial participants or difficulties in recruiting new trial participants;

- initiation of investigations by regulators;
- costs to defend or settle the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- significant negative financial impact; and
- the inability to commercialize any of our product candidates, if approved.

Although we will seek to procure and maintain product liability insurance coverage, we may be unable to secure such insurance and the insurance coverage may not be adequate to cover all liabilities that we may incur. We may need to increase our insurance coverage each time we commence a clinical trial and if we successfully commercialize any product candidate. As the expense of insurance coverage is increasing, we may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. If a successful product liability claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover such claims and our business operations could be materially harmed.

#### **Risks Relating to Manufacturing and Supply**

##### ***Manufacturing biologics is complex, and we may experience manufacturing problems that result in delays in our development or commercialization programs.***

The manufacturing of biologics is complex and difficult and we may experience production issues or interruptions for our product candidates, including raw material or starting material variability in terms of quality, cell line viability, productivity or stability issues, shortages of any kind, shipping, distribution, storage and supply chain failures, growth media contamination, equipment malfunctions, operator errors, facility contamination, labor problems, natural disasters, disruption in utility services, terrorist activities, or acts of god that are beyond our or our CMO's control.

Given the nature of biologics manufacturing, there is a risk of contamination during manufacturing. Any contamination could materially harm our ability to produce product candidates on schedule and could harm our results of operations and cause reputational damage. Some of the raw materials that we anticipate will be required in our manufacturing process are derived from biologic sources. Such raw materials may be difficult to procure and may be subject to contamination or recall.

Problems with the manufacturing process, even minor deviations from the normal process, could result in product defects or manufacturing failures that result in lot failures, product recalls, product liability claims, insufficient inventory or potentially delay progression of our preclinical or clinical development of any product candidates we may develop. If we successfully develop product candidates, we may encounter problems achieving adequate quantities and quality that meet FDA, European Medicines Agency, or EMA, or other comparable applicable foreign standards or specifications with consistent and acceptable production yields and costs. The ability to scale our manufacturing and maintain the manufacturing process at the same levels of quality and efficacy that we are currently manufacturing is yet to be tested. If we or our third-party contract manufacturers, or CMOs, are unable to scale our manufacturing at the same levels of quality and efficiency, we may not be able to supply the required number of doses for clinical trials or commercial supply. A material shortage, contamination or manufacturing failure in the manufacture of any product candidates we may develop or other adverse impact or disruption in the commercial manufacturing or the production of clinical material could materially harm our development timelines and our business, financial condition, results of operations and prospects.

We face risk related to our reliance on our current and any future CMOs. For example, we and our CMOs are subject to significant regulation with respect to manufacturing our products. The manufacturing facilities CMOs on which we rely may not continue to meet regulatory requirements, and may have limited capacity and may experience interruptions in supply, any of which could adversely affect our development and

commercialization plans for our product candidates. All entities involved in the preparation of therapeutics for clinical trials or commercial sale, including any CMOs of any product candidates we may develop, are subject to extensive regulation. Components of a finished therapeutic product approved for commercial sale or used in clinical trials must be manufactured in accordance with clinical Good Manufacturing Practices, or cGMP. These regulations govern manufacturing processes and procedures (including record keeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants or to inadvertent changes in the properties or stability of our product candidates that may not be detectable in final product testing. We or our CMO must supply all necessary documentation in support of a BLA on a timely basis and must adhere to the FDA's current Good Laboratory Practices and current Good Manufacturing Practices regulations enforced through its facilities inspection program. Our facilities and quality systems and the facilities and quality systems of our CMOs must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of any product candidates we may develop or any of our other potential products. In addition, the regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of our product candidates or our other potential products or the associated quality systems for compliance with the regulations applicable to the activities being conducted. If these facilities do not pass a pre-approval plant inspection, FDA approval of the products will not be granted.

The regulatory authorities also may, at any time following approval of a product for sale, audit our manufacturing facilities or those of our CMOs. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly and/or time-consuming for us or a third party to implement and that may include the temporary or permanent suspension of a clinical study or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

If we or any CMO with which we contract for manufacturing and supply fails to maintain regulatory compliance, the FDA can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new drug product or biologic product, or revocation of a pre-existing approval. As a result, our business, financial condition and results of operations may be materially harmed.

Currently, we depend on a single manufacturer for the manufacturing processes required to develop our product candidates. We cannot ensure that this manufacturer will remain in business or have sufficient capacity or supply to meet our needs. Our use of a single manufacturer exposes us to several risks, including price increases or manufacturing delays beyond our control. Moreover, reliance on third-party manufacturers generally entails risks to which we would not be subject if we manufactured the product candidates ourselves, including:

- the inability to negotiate manufacturing agreements with third parties under commercially reasonable terms or at all, particularly if they are affiliated with our competitors;
- reduced control as a result of using third-party manufacturers for all aspects of manufacturing activities, particularly if they are under contract with our competitors;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;
- disruptions to the operations of our third-party manufacturers or suppliers caused by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier;
- the inability to obtain components or materials from alternate sources at acceptable prices in a timely manner; and
- substantial delays or difficulties related to the establishment of replacement manufacturers who meet regulatory requirements.

Any of these events could lead to clinical trial delays or failure to obtain regulatory approval or impact our ability to successfully commercialize future products. Some of these events could be the basis for FDA action, including injunction, recall, seizure or total or partial suspension of production.

Additionally, if supply from one approved manufacturer is interrupted, such as could be the case with our current CMO, there could be a significant disruption in supply. While we believe there are alternate manufacturers who can provide the manufacturing processes required to develop our product candidates, if we have to switch to a replacement manufacturer, the manufacture and delivery of our product candidates could be interrupted for an extended period, which could adversely affect our business. Furthermore, an alternative manufacturer would need to be qualified through a BLA supplement which could result in further delay. The regulatory agencies may also require additional studies or trials if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause the delay of clinical trials, regulatory submissions, required approvals or commercialization of our product candidates, cause us to incur higher costs and prevent us from commercializing our products successfully. Furthermore, if our suppliers fail to meet contractual requirements, and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical trials may be delayed or we could lose potential revenue.

***If we or any CMOs and suppliers we engage fail to comply with environmental, health, and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.***

We and any CMOs and suppliers we engage are subject to numerous federal, state and local environmental, health, and safety laws, regulations and permitting requirements, including those governing laboratory procedures; the generation, handling, use, storage, treatment and disposal of hazardous and regulated materials and wastes; the emission and discharge of hazardous materials into the ground, air and water; and employee health and safety. Our operations involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. Our operations also produce hazardous waste. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. Under certain environmental laws, we could be held responsible for costs relating to any contamination at third-party facilities. We also could incur significant costs associated with civil or criminal fines and penalties.

Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our research and product development efforts. In addition, we cannot entirely eliminate the risk of accidental injury or contamination from these materials or wastes. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not carry specific biological or hazardous waste insurance coverage, and our property, casualty and general liability insurance policies specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws, regulations and permitting requirements. These current or future laws, regulations and permitting requirements may impair our research, development or production efforts. Failure to comply with these laws, regulations and permitting requirements also may result in substantial fines, penalties or other sanctions or business disruption, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Any third-party CMOs and suppliers we engage will also be subject to these and other environmental, health and safety laws and regulations. Liabilities they incur pursuant to these laws and regulations could result in significant costs or an interruption in operations, which could have a material adverse effect on our business, financial condition, results of operations and prospects.



### Risks Related to our Dependence on Third Parties

***We expect to rely on third parties to conduct, supervise and monitor IND-enabling studies and clinical trials, and if these third parties perform in an unsatisfactory manner, it may harm our business, reputation and results of operations.***

We expect to rely on CROs and research and clinical trial sites to ensure our IND-enabling studies and clinical trials are conducted properly and on time, and we expect to rely in the future on CROs for additional research programs. While we will have agreements governing their activities, we will have limited influence over their actual performance. We will control only certain aspects of our CROs' activities. Nevertheless, we will be responsible for ensuring that each of these studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our CROs will be required to comply with the FDA's Good Clinical Practices, or GCPs, for conducting, recording and reporting the results of IND-enabling studies and clinical trials to assure that the data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. The FDA enforces these GCPs through periodic inspections of study sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with applicable GCPs, the preclinical and clinical data generated in our studies may be deemed unreliable and the FDA may require us to perform additional studies before approving any marketing applications. Upon inspection, the FDA may determine that our studies did not comply with GCPs.

Our CROs are not our employees, and we are therefore unable to directly monitor whether or not they devote sufficient time and resources to our clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug development activities that could harm our competitive position. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our protocols or regulatory requirements, or for any other reasons, our studies may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize any product candidates we may develop. As a result, our financial results and commercial prospects would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

***We may enter into collaborations, licenses or similar arrangements with third parties for the research, development and commercialization of certain of our current or future product candidates. If any such arrangements are not successful, we may not be able to capitalize on the market potential of those product candidates.***

We may seek third-party collaborators or licensors for the research, development and commercialization of certain of our current or future product candidates. If we enter into any such arrangements with any third parties, we will likely have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of any product candidates we may seek to develop with them. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. We cannot predict the success of any collaboration that we enter into.

Collaborations, licenses or similar arrangements involving our research programs or any product candidates pose numerous risks to us, including the following:

- collaborators or licensors have significant discretion in determining the efforts and resources that they will apply to these arrangements;
- collaborators or licensors may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the such third party's strategic focus or available funding or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators or licensors may delay programs, preclinical studies or clinical trials, provide insufficient funding for programs, preclinical studies or clinical trials, stop a preclinical study or clinical trial or

abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;

- collaborators or licensors could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- collaborators or licenses may be acquired by a third party having competitive products or different priorities;
- collaborators or licensors with marketing and distribution rights to one or more product candidates may not commit sufficient resources to the marketing and distribution of such product candidate(s);
- collaborators or licensors may not properly obtain, maintain, enforce or defend our intellectual property or proprietary rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our proprietary information or expose us to potential litigation;
- disputes may arise between the collaborators or licensors and us that result in the delay or termination of the research, development, or commercialization of our product candidates or any of our product candidates or that result in costly litigation or arbitration that diverts management attention and resources;
- we may lose certain valuable rights under certain circumstances, including if we undergo a change of control;
- collaborations or licenses may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates; and
- collaborations or license agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all. If a present or future collaborator or licensor of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished or terminated.

If our collaborations, licenses or similar transactions do not result in the successful development and commercialization of product candidates, or if one of our collaborators or licensors terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under such agreement. If we do not receive the funding we expect under these agreements, our development of product candidates could be delayed, and we may need additional resources to develop product candidates. In addition, if one of our collaborators terminates its agreement with us, we may find it more difficult to find a suitable replacement collaborator or licensor or for us to attract new collaborators or licensors, and our development programs may be delayed or the perception of us in the business and financial communities could be adversely affected. All of the risks relating to product development, regulatory approval and commercialization described in this prospectus apply to the activities of our collaborators or licensors.

These relationships, or those like them, may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business. In addition, we could face significant competition in seeking appropriate collaborators, and the negotiation process is time-consuming and complex. Our ability to reach a definitive collaboration or license agreement will depend, among other things, upon our assessment of the resources and expertise of such third-party collaborator or licensor and the terms and conditions of the proposed collaboration or license. Further, if we license rights for use in any product candidates we or our collaborators may develop, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture.

***If we are not able to establish collaborations on commercially reasonable terms, we may have to alter our development and commercialization plans.***

Our product development and research programs and the potential commercialization of any product candidates we may develop will require substantial additional cash to fund expenses. For some of the product

candidates we may develop, we may decide to collaborate with other pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates. For example, as part of our development strategy, we plan to seek a potential collaborator for XTX101.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration, and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA, the EMA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us.

Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization, reduce the scope of any sales or marketing activities, or increase our own expenditures on the development of the product candidate.

***Certain of our research and development and manufacturing activities take place in China through third-party CROs, collaborators or manufacturers. A significant disruption in the operation of those CROs, collaborators or manufacturers could materially adversely affect our business, financial condition and results of operations.***

We have relied on certain third parties located in China to manufacture and supply certain raw materials used in our product candidates, and we expect to continue to use such third-party manufacturers for such purposes. A natural disaster, epidemic or pandemic, including the recent COVID-19 pandemic, trade war, political unrest, economic conditions, changes in legislation, including the passage of the People's Republic of China Biosecurity law, which became effective on April 15, 2021, or other events in China could disrupt the business or operations of CROs, collaborators, manufacturers or other third parties with whom we conduct business now or in the future. Any disruption in China that significantly impacts such third parties, including services provided by CROs for our research and development programs, or our manufacturers' ability to produce raw materials in adequate quantities to meet our needs could impair our ability to operate our business on a day-to-day basis and impede, delay, limit or prevent the research, development or commercialization of our current and future products or product candidates. In addition, for any activities conducted in China, we are exposed to the possibility of product supply disruption and increased costs in the event of changes in the policies of the U.S. or Chinese governments, political unrest or unstable economic conditions including sanctions in China, and we may be exposed to fluctuations in the value of the local currency in China for goods and services. Our costs for any of these services or activities could also increase as a result of future appreciation of the local currency in China or increased labor costs if the demand for skilled laborers increases and/or the availability of skilled labor declines in China.

#### **Risks Related to Commercialization**

***We have never commercialized a product candidate and we may lack the necessary expertise, personnel and resources to successfully commercialize any products that receive regulatory approval, either on our own or together with collaborators.***

We have never commercialized a product candidate. We currently have no sales force or marketing or distribution capabilities. To achieve commercial success of our product candidates, if any are approved, we will have to develop our own sales, marketing and supply capabilities or outsource these activities to one or more third parties.

Factors that may affect our ability to commercialize our product candidates on our own include our ability to recruit and retain adequate numbers of effective sales and marketing personnel and obtain access to or persuade adequate numbers of physicians to prescribe our product candidates, as well as any unforeseen costs we may incur in connection with creating an independent sales and marketing organization. Developing a sales and marketing organization requires significant investment and substantial amount of time and attention from our management and may divert a disproportionate amount of their attention away from day-to-day activities, which could delay the launch of our product candidates. We may not be able to build an effective sales and marketing organization in the United States, the European Union or other key global markets. To the extent we need to rely upon one or more third parties, we may have little or no control over the marketing and sales efforts of those third parties and our revenue from product sales may be lower than if we had commercialized our product candidates ourselves. We will also face competition in any search for third parties to assist us with sales and marketing efforts for our product candidates. If we are unable to build our own distribution and marketing capabilities or to find suitable partners for the commercialization of our product candidates, we may have difficulties generating revenue from them.

***We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.***

The development and commercialization of new products is highly competitive. We face competition with respect to our current product candidates and will face competition with respect to any product candidates that we may seek to develop or commercialize in the future, from major pharmaceutical, specialty pharmaceutical and biotechnology companies among others. We compete in the segments of the pharmaceutical, biotechnology and other related markets that develop immunotherapies for the treatment of cancer. There are other companies working to develop immunotherapies for the treatment of cancer including divisions of pharmaceutical and biotechnology companies of various sizes. Some of these competitive therapies are based on scientific approaches that are the same as or similar to our approach, and others are based on entirely different approaches. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

We are developing our initial product candidates for the treatment of cancer and have not commenced clinical trials of or received marketing approval for any of our product candidates. There are already a variety of available therapies marketed for cancer and some of the currently approved therapies are branded and subject to patent protection, and others are available on a generic basis. Many of these approved therapies are well-established and widely accepted by physicians, patients and third-party payors. Insurers and other third-party payors may also encourage the use of generic products. We expect that if our product candidates are approved, they will be priced at a significant premium over competitive generic products. This may make it difficult for us to achieve our business strategy of using our product candidates in combination with existing therapies or replacing existing therapies with our product candidates. Competition may further increase with advances in the commercial applicability of technologies and greater availability of capital for investment in these industries.

XTX101, if approved, may face competition from other anti-CTLA-4 based therapies. For example, Yervoy (ipilimumab), an anti-CTLA-4, is approved to treat melanoma, renal cell carcinoma and certain cancers of the large intestine. In addition, we are aware that several companies have anti-CTLA-4 programs in development, including Adagene, Inc., Agenus Inc., AstraZeneca plc, Bioatla Inc., Bristol-Myers Squibb Inc., CytomX Therapeutics Inc. and MacroGenics Inc.

We are aware of a number of companies that are developing cytokines as immunotherapies, as well as different modalities, including monoclonal antibodies, cell therapies, oncolytic viruses and vaccines.

XTX202, if approved, may face competition from other IL-2-based cancer therapies. For example, Proleukin (aldesleukin), a synthetic protein very similar to IL-2, is approved and marketed for the treatment of metastatic renal cell carcinoma and melanoma. In addition, we are aware that a number of other companies have modified or low-dose IL-2 programs in development for the treatment of cancer, including Alkermes plc, Asher Biotherapeutics, Inc., Bright Peak Therapeutics, Nektar Therapeutics Inc., Neoleukin Therapeutics Inc., Roche AG, Sanofi, Synthekine, Inc., Trutino Biosciences Inc. and Werewolf Therapeutics Inc.

There are no approved IL-12 therapies currently on the market for the treatment of cancer; however, we are aware of several other companies that have modified IL-12 or intra-tumoral IL-12 delivery programs for the treatment of cancer in development, including Cullinan Management Inc., DragonFly Therapeutics Inc., EMD Serono Inc., Philogen S.p.A., Werewolf Therapeutics Inc. and Xencor Inc.

There are no approved IL-15 therapies currently on the market for the treatment of cancer; however, we are aware of several other companies that have IL-15 based cancer therapies that are in development, including Jiangsu Hengrui Medicine Company Ltd., Kadmon Therapeutics Inc., Nantworks LLC, Sanofi and Xencor Inc.

Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. We also compete with these organizations in establishing clinical trial sites and patient registration for clinical trials, as well as in recruiting and retaining qualified scientific and management personnel, which could negatively affect our level of expertise and our ability to execute our business plan.

Many of our competitors, either alone or with their collaborators, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical and clinical testing, obtaining regulatory approvals and reimbursement and marketing approved products than we do. Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel product candidates or to in-license novel product candidates that could make our product candidates less competitive or obsolete. Smaller or early-stage companies may also prove to be significant competitors, including through collaborative arrangements with large and established companies. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. The availability of competing products could limit the demand and the price we are able to charge for product candidates we commercialize, if any. The inability to compete with existing or subsequently introduced products would harm our business, financial condition and results of operations. See “Business—Competition” for additional information on potential competition.

***If we do not achieve our projected development and commercialization goals in the timeframes we announce and expect, the commercialization of any of our product candidates may be delayed, and our business could be harmed.***

For planning purposes, we sometimes estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development objectives. These milestones may include our expectations regarding the commencement or completion of scientific studies and clinical trials, the submission of regulatory filings or commercialization objectives. From time to time, we may publicly announce the expected timing of some of these milestones, such as the completion of an ongoing clinical trial, the initiation of other clinical trials, receipt of regulatory approval or the commercial launch of a product. The achievement of many of these milestones may be outside of our control. All of these milestones are based on a variety of assumptions which may cause the timing of achievement of the milestones to vary considerably from our estimates, including:

- our available capital resources or capital constraints we experience;
- the rate of progress, costs and results of our clinical trials and research and development activities, including the extent of scheduling conflicts with participating clinicians and collaborators;
- our ability to identify and enroll patients who meet clinical trial eligibility criteria;
- our receipt of approvals by the FDA, EMA and comparable regulatory authorities in other jurisdictions, and the timing thereof;
- other actions, decisions or rules issued by regulators;
- our ability to access sufficient, reliable and affordable supplies of materials used in the manufacture of our product candidates;
- our ability to manufacture and supply clinical trial materials to our clinical sites on a timely basis;
- the efforts of our collaborators with respect to the commercialization of our products; and

- the securing of, costs related to, and timing issues associated with, commercial product manufacturing as well as sales and marketing activities.

If we fail to achieve announced milestones in the timeframes we expect, the commercialization of any of our product candidates may be delayed, and our business, results of operations, financial condition and prospects may be adversely affected.

***If approved, our product candidates that are regulated as biological products, or biologics, may face competition from biosimilars approved through an abbreviated regulatory pathway.***

The Biologics Price Competition and Innovation Act of 2009, or BPCIA, was enacted as part of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, to establish an abbreviated pathway for the approval of biosimilar and interchangeable with an FDA-licensed reference biologic product. The regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as “interchangeable” based on its similarity to an approved biologic. Under the BPCIA, reference biological product is granted 12 years of non-patent data exclusivity from the time of first licensure of the product, and the FDA will not accept an application for a biosimilar or interchangeable product based on the reference biological product until four years after the date of first licensure of the reference product. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still develop and receive approval of a competing biologic, so long as their BLA does not rely on the reference product or sponsor’s data or submit the application as a biosimilar application. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation and meaning are subject to uncertainty, and any new policies or processes adopted by the FDA could have a material adverse effect on the future commercial prospects for our biological products.

We believe that any of the product candidates we develop that is approved in the United States as a biological product under a BLA should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider the subject product candidate to be a reference product for competing products, potentially creating the opportunity for biosimilar competition sooner than anticipated. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of the reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. The approval of a biosimilar of our product candidates could have a material adverse impact on our business due to increased competition and pricing pressure.

If competitors are able to obtain regulatory approval for biosimilars referencing our product candidates, our product candidates may become subject to competition from such biosimilars, with the attendant competitive pressure and consequences.

***The sizes of the potential markets for our product candidates are difficult to estimate and, if any of our assumptions are inaccurate, the actual markets for our product candidates may be smaller than our estimates.***

The potential market opportunities for our product candidates are difficult to estimate and, if our product candidates are approved, will ultimately depend on, among other things, the indications for which our product candidates are approved for sale, any products with which our product candidates are co-administered, the success of competing therapies and therapeutic approaches, acceptance by the medical community, patient access, product pricing, reimbursement and our ability to create meaningful value propositions for patients, prescribers and payors. Our estimates of the potential market opportunities for our product candidates are predicated on many assumptions, which may include industry knowledge and publications, third-party research reports and other surveys. Although we believe that our internal assumptions are reasonable, these assumptions involve the exercise of significant judgment on the part of our management, are inherently uncertain, and their reasonableness has not been assessed by an independent source. If any of the assumptions proves to be inaccurate, the actual markets for our product candidates could be smaller than our estimates of the potential market opportunities.

***The successful commercialization of our product candidates will depend in part on the extent to which we obtain and maintain favorable insurance coverage, adequate reimbursement levels and cost-effective pricing policies with third party payors.***

The availability and adequacy of coverage and reimbursement by third-party payors, including governmental healthcare programs such as Medicare and Medicaid, managed care organizations, and private health insurers, are essential for most patients to be able to afford prescription medications such as our product candidates, if approved. Our ability to achieve acceptable levels of coverage and reimbursement for products by third-party payors will have an effect on our ability to successfully commercialize our product candidates. We cannot be sure that coverage and reimbursement in the United States, the European Union or elsewhere will be available for our product candidates, if approved, or any product that we may develop, and any reimbursement that may become available may be decreased or eliminated in the future.

Third-party payors increasingly are challenging prices charged for pharmaceutical products and services, and many third-party payors may refuse to provide coverage and reimbursement for particular drugs or biologics when an equivalent generic drug, biosimilar or a less expensive therapy is available. It is possible that a third-party payor may consider our product candidates as substitutable and only offer to reimburse patients for the less expensive product. Even if we show improved efficacy or improved convenience of administration with our product candidates, pricing of existing third-party therapeutics may limit the amount we will be able to charge for our product candidates. These payors may deny or revoke the reimbursement status of a given product or establish prices for new or existing marketed products at levels that are too low to enable us to realize an appropriate return on our investment in our product candidates, if approved. Even if our product candidates are approved and we obtain coverage for our product candidates by a third-party payor, such products may not be considered cost-effective and/or the resulting reimbursement payment rates may be insufficient or may require co-payments that patients find unacceptably high. Interim reimbursement levels for new medicines, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Net prices for medicines may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of medicines from countries where they may be sold at lower prices than in the United States. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates, if approved, and may not be able to obtain a satisfactory financial return on our product candidates.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. The regulations that govern marketing approvals, pricing and reimbursement for new medicines vary widely from country to country. In the United States, third-party payors play an important role in determining the extent to which new drugs and biologics will be covered. The Medicare and Medicaid programs increasingly are used as models in the United States for how third-party payors develop their coverage and reimbursement policies for drugs and biologics. Some third-party payors may require pre-approval of coverage for new or innovative devices or drug therapies before they will reimburse healthcare providers who use such therapies. We cannot predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates, if approved.

No uniform policy for coverage and reimbursement for products exists among third-party payors in the United States and coverage and reimbursement for products can therefore differ significantly from payor to payor and coverage and reimbursement by one payor does not guarantee coverage and reimbursement by another payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Our ability to demonstrate to these third-party payors that any of our approved product candidates creates a meaningful value proposition for patients, prescribers and payors will be important to gaining market access and reimbursement and there is no guarantee that we will be successful in doing so. Furthermore, rules and regulations regarding reimbursement change frequently, in some cases on short notice, and we believe that changes in these rules and regulations are likely.

*Even if a product candidate we develop receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, hospitals, cancer treatment centers, third-party payors and others in the medical community necessary for commercial success.*

If any product candidate we develop receives marketing approval, whether as a single agent or in combination with other therapies, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, hospitals, cancer treatment centers, third-party payors, and others in the medical community. For example, cancer treatments like chemotherapy, radiation therapy and certain existing immunotherapies are well established in the medical community, and doctors may continue to rely on these therapies. If the product candidates we develop do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable.

The degree of market acceptance of any product, if approved for commercial sale, will depend on a number of factors, including:

- the product's efficacy, safety and potential advantages compared to alternative treatments;
- the prevalence and severity of any side effects;
- the product's convenience and ease of administration compared to alternative treatments;
- the clinical indications for which the product is approved;
- the willingness of the target patient population to try a novel treatment and of physicians to prescribe such treatments;
- the recommendations with respect to the product in guidelines published by scientific organizations;
- the ability to obtain sufficient third-party insurance coverage and adequate reimbursement, including, if applicable, with respect to the use of the product as a combination therapy;
- the strength of marketing, sales and distribution support;
- the effectiveness of our sales and marketing efforts;
- the approval of other new products for the same indications; and
- our ability to offer the product for sale at competitive prices.

If we obtain marketing approval for a product but such product does not achieve an adequate level of market acceptance, we may not generate or derive significant revenue from that product and our business, financial condition and results of operations may be adversely affected.

#### **Risks Related to Our Intellectual Property**

*If we are unable to obtain and maintain patent protection for any product candidates we develop or for other proprietary technologies we may develop, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize product candidates and technology similar or identical to our product candidates and technology, and our ability to successfully commercialize any product candidates we may develop, and our technology may be adversely affected.*

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our product candidates, their respective components, formulations, combination therapies, methods used to manufacture them and methods of treatment and development that are important to our business. If we do not adequately protect our intellectual property rights, competitors may be able to erode or negate any competitive advantage we may have, which could harm our business and ability to achieve profitability. To protect our proprietary position, we file patent applications in the United States and abroad related to our product candidates that are important to our business; we also license and may in the future license or purchase additional patents and patent applications filed by others. If we are unable to secure or maintain patent protection with respect to our product candidates and any proprietary products and technology we develop, our business, financial condition, results of operations and prospects could be materially harmed.



If the scope of the patent protection we or our potential licensors obtain is not sufficiently broad, we may not be able to prevent others from developing and commercializing technology and products similar or identical to ours. The degree of patent protection we require to successfully compete in the marketplace may be unavailable or severely limited in some cases and may not adequately protect our rights or permit us to gain or keep any competitive advantage. We cannot provide any assurances that any of our patents have, or that any of our pending patent applications that mature into issued patents will include, claims with a scope sufficient to protect our current and future product candidates or otherwise provide any competitive advantage. In addition, to the extent that we license intellectual property in the future, we cannot assure you that those licenses will remain in force. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Furthermore, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized.

Our patents and pending patent applications, if issued, may not provide us with any meaningful protection or prevent competitors from designing around our patent claims to circumvent our patents by developing similar or alternative technologies or therapeutics in a non-infringing manner. For example, a third party may develop a competitive therapy that provides benefits similar to one or more of our product candidates but that uses a formulation and/or a device that falls outside the scope of our patent protection. If the patent protection provided by the patents and patent applications we hold or pursue with respect to our product candidates is not sufficiently broad to impede such competition, our ability to successfully commercialize our product candidates could be negatively affected, which would harm our business.

Patent positions of life sciences companies can be uncertain and involve complex factual and legal questions and has in recent years been the subject of much litigation. No consistent policy governing the scope of claims allowable in the field of engineered therapeutic proteins has emerged in the United States. The scope of patent protection in jurisdictions outside of the United States is also uncertain. Changes in either the patent laws or their interpretation in any jurisdiction that we seek patent protection may diminish our ability to protect our inventions, maintain and enforce our intellectual property rights; and, more generally, may affect the value of our intellectual property, including the narrowing of the scope of our patents and any that we may license. Under the America Invents Act enacted in 2011, or the AIA, the United States moved to a first-to-file system in early 2013 (whereby, assuming the other requirements for patentability are met, the first to file a patent application is entitled to the patent), from the previous system under which the first to make a claimed invention was entitled to the patent. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

The patent prosecution process is complex, expensive, time-consuming and inconsistent across jurisdictions. We may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patent rights at a commercially reasonable cost or in a timely manner. In addition, we may not pursue or obtain patent protection in all relevant markets. It is possible that we will fail to identify important patentable aspects of our research and development efforts in time to obtain appropriate or any patent protection. While we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development efforts, including for example, our employees, external academic scientific collaborators, CROs, CMOs, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose our confidential or proprietary information before a patent application is filed, thereby endangering our ability to seek patent protection. In addition, publications of discoveries in the scientific and scholarly literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Consequently, we cannot be certain that we were the first to file for patent protection on the inventions claimed in our patents or pending patent applications.

The issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Pending patent applications cannot be enforced against third parties unless, and until, patents issue from such

applications, and then only to the extent the issued claims cover the technology. There can be no assurance that our patent applications or any patent applications that we may license in the future will result in patents being issued. Further, the scope of the invention claimed in a patent application can be significantly reduced before the patent is issued, and this scope can be reinterpreted after issuance. Even if patent applications we currently own or that we may license in the future issue as patents, they may not issue in a form that will provide us with adequate protection to prevent competitors or other third parties from competing with us, or otherwise provide us with a competitive advantage. Any patents that eventually issue may be challenged, narrowed or invalidated by third parties. Consequently, we do not know whether any of our product candidates will be protectable or remain protected by valid and enforceable patent rights. Our competitors or other third parties may be able to evade our patent rights by developing new products that are similar to our product candidates, biosimilars of our product candidates, or alternative technologies or products in a non-infringing manner.

The issuance or grant of a patent is not irrefutable as to its inventorship, scope, validity or enforceability, and our patents may be challenged in the courts or patent offices in the United States and abroad. There may be prior art of which we are not aware that may affect the validity or enforceability of a patent claim. There also may be prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, which may, nonetheless, ultimately be found to affect the validity or enforceability of a claim. We may in the future, become subject to a third-party pre-issuance submission of prior art, pre- or post-issuance opposition, derivation, revocation, re-examination, post-grant and *inter partes* review, or interference proceeding and other similar proceedings challenging our patent rights or the patent rights of others in the U.S. Patent and Trademark Office, or USPTO, or other foreign patent office. An unfavorable determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or extinguish our ability to manufacture or commercialize products without infringing third-party patent rights.

In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. Moreover, some of our owned and in-licensed patents and patent applications may in the future be co-owned with third parties. If we are unable to obtain an exclusive license to any such third-party co-owners' interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we or our licensors may need the cooperation of any such co-owners of our owned and in-licensed patents in order to enforce such patents against third parties, and such cooperation may not be provided to us or our licensors. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations and prospects.

***We rely on in-license agreements for patent rights with respect to our product candidates and may in the future acquire additional third-party intellectual property rights on which we may similarly rely. We face risks with respect to such reliance, including the risk that we could lose these rights that are important to our business if we fail to comply with our obligations under these licenses.***

We rely on third-party license agreements pursuant to which we have non-exclusive and exclusive rights to technology that is incorporated into our development programs and product candidates. For example, under our cross-license agreement with AskGene, we have exclusively in-licensed patent rights relating to our IL-2 program, and we also have the option to obtain exclusive licenses to patent rights relating to our IL-15 program. In addition, under our license agreement with City of Hope, we have exclusively in-licensed certain patent rights that cover our anti-CTLA-4 antibody. We also have a license agreement with WuXi Biologics (Hong Kong) Limited, or WuXi Biologics, pursuant to which we received an exclusive worldwide license to specified monoclonal antibodies, or mAbs, and patent rights and know-how controlled by WuXi Biologics, including certain patent rights related to our anti-CTLA-4 mAb program. These license agreements impose diligence, milestone payment, royalty payment and other obligations on us. For more information regarding our in-license agreements with AskGene, City of Hope and WuXi Biologics, see "Business—License Agreements."

Moreover, the growth of our business may depend in part on our ability to acquire, in-license or use additional third-party intellectual property rights. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. Licenses to additional third-party intellectual property, technology and materials that may be required for the development and commercialization of our product candidates or technology may not be available at all or on commercially reasonable terms. In that event, we may be required to expend significant time and resources to redesign our product candidates or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to develop or commercialize our future product candidates or technologies, which could materially harm our business, financial condition, results of operations and growth prospects.

Under our agreement with City of Hope, we are responsible for the achievement of certain diligence milestones, and our failure to timely achieve such milestones could result in City of Hope's termination of the agreement or conversion of our exclusive licenses under the licensed patents to non-exclusive licenses. If City of Hope terminates the agreement or converts our licenses to non-exclusive licenses as a result of our failure to meet these diligence milestones, then our ability to commercialize products comprising our anti-CTLA-4 antibody may be impaired or we may face increased competition in the commercialization of anti-CTLA-4 antibody products. Furthermore, our agreement with City of Hope is subject to, and we expect our future license agreements may also be subject to, a reservation of rights by one or more third parties, including the licensor.

AskGene retained co-exclusive rights to exploit antigen-binding IL-2 and IL-15 products under our agreement with AskGene. Therefore, AskGene could develop and commercialize one or more antigen-binding IL-2 or IL-15 products on a more timely basis than us, if we ever develop such a product, or that are more effective or have more commercial success than products that we may develop. Additionally, AskGene is responsible for prosecution and maintenance of the licensed patents under the agreement and any future third party from whom we may license patent rights may similarly be responsible for prosecution and maintenance of such patents. We have limited control over the activities that are the responsibility of AskGene and would have limited control over the activities that are the responsibility of any future licensor, and it is possible that prosecution and maintenance of licensed patents by AskGene or any future licensor may be less vigorous than had we conducted such activities ourselves. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Disputes may arise regarding intellectual property subject to our current or any future license agreements of ours, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- our or our licensor's ability to defend intellectual property and to enforce intellectual property rights against third parties;
- the extent to which our technology, product candidates and processes infringe, misappropriate or otherwise violate any intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under the license agreement;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and any partners of ours; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates. We are generally also subject to all of the same risks described in this prospectus with respect to protection of intellectual property that we license as we are for intellectual property that we own. If we or our licensors fail to adequately protect this intellectual property, our ability to commercialize products could suffer.

Our current and any potential future licensors might conclude that we have materially breached our license agreements and might therefore terminate the relevant license agreements, thereby removing our ability to develop and commercialize products and technology covered by such license agreements. If any of our current or future inbound license agreements are terminated, or if the underlying patents fail to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products that are covered by such license agreements and underlying patents, which might be identical to our products or product candidates. This could have a material adverse effect on our competitive position, business, financial conditions, results of operations and growth prospects. Our business also would suffer if any current or future licensors fail to abide by the terms of the license or fail to enforce licensed patents against infringing third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or otherwise violating the licensor's rights.

Any licensor of ours may have relied on third-party consultants or collaborators or on funds from third parties, such as the United States government, such that such licensor is not the sole and exclusive owners of the patents we in-licensed. If other third parties have ownership rights or other rights to our in-licensed patents, they may be able to license such patents to our competitors, and our competitors could market competing products and technology. This could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

In addition, while we cannot currently determine the amount of the royalty obligations we would be required to pay on sales of future products, if any, the amounts may be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

***If our efforts to protect the proprietary nature of the intellectual property related to our technologies and product candidates are not adequate, we may not be able to compete effectively in our market.***

Biotechnology and pharmaceutical companies generally, and we in particular, compete in a crowded competitive space characterized by rapidly evolving technologies and aggressive defense of intellectual property. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. Our or our licensor's failure to comply with all such provisions during the patent process could result in abandonment or lapse of a patent or patent application that we own or license, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market and compete with us earlier than would otherwise have been the case.

We rely upon a combination of patents, confidentiality agreements, trade secret protection and license agreements to protect the intellectual property related to our technologies and our product candidates. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements and product candidates, thus eroding our competitive position in our market. We, or any future partners, collaborators, or licensees, may fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Therefore, we may miss potential opportunities to strengthen our patent position.

It is possible that defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, for example with respect to proper priority claims, inventorship, claim scope, or requests for patent term adjustments. If we or our partners, collaborators, licensees or licensors fail to establish,

maintain or protect such patents and other intellectual property rights, such rights may be reduced or eliminated. If our partners, collaborators, licensees or licensors are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. If there are material defects in the form, preparation, prosecution, or enforcement of our patents or patent applications, such patents may be invalid and/or unenforceable, and such applications may never result in valid, enforceable patents. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

We seek or plan to seek patent protection for our product candidates by filing and prosecuting patent applications in the United States and other countries as appropriate. However, we cannot predict:

- if and when patents will issue;
- if patents will issue with claims that cover our product candidates;
- the degree and range of protection any issued patents will afford us against competitors including whether third parties will find ways to invalidate or otherwise circumvent our patents;
- whether foreign jurisdictions will adequately uphold patent protections;
- whether any of our intellectual property will provide any competitive advantage;
- whether any of our patents that may be issued may be challenged, invalidated, modified, revoked, circumvented, found to be unenforceable or otherwise may not provide any competitive advantage;
- whether or not others will obtain patents claiming aspects similar to those covered by our patents and patent applications; or
- whether we will need to initiate or defend litigation or administrative proceedings which may be costly regardless of whether we win or lose.

Additionally, we cannot be certain that the claims in our pending patent applications covering our product candidates and research programs will be considered patentable by the USPTO, or by patent offices in foreign countries, or that the claims in any of our issued patents will be considered valid by courts in the United States or foreign countries.

The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our product candidates or technology or uses thereof in the United States or in other foreign countries. Even if patents do successfully issue, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims. If the breadth or strength of protection provided by the patents and patent applications we hold with respect to our product candidates or technology is threatened, it could dissuade companies from collaborating with us to develop, and threaten our ability to commercialize, our product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market our product candidates under patent protection would be reduced. Since patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our product candidates. Furthermore, for U.S. applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third-party or instituted by the USPTO to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. We cannot be certain that we are the first to invent the inventions covered by pending patent applications and, if we are not, we may be subject to priority disputes. We may be required to disclaim part or all of the term of certain patents or all of the term of certain patent applications. Various post-grant review proceedings, such as *inter partes* review, post-grant review and derivation proceedings, are available and may be pursued by any interested third party in the USPTO to challenge the patentability of claims issued in patents to us or our licensors. No assurance can be given as to the outcome of any such post-grant review proceedings. No assurance can be given that if challenged, our patents would be declared by a court to be valid or enforceable or that even if found valid and enforceable, a competitor's technology or product would be found by a court to infringe our patents. We may analyze patents or patent applications of our competitors

that we believe are relevant to our activities, and consider that we are free to operate in relation to our product candidates, but our competitors may achieve issued claims, including in patents we consider to be unrelated, which block our efforts or may potentially result in our product candidates or our activities infringing such claims. The possibility exists that others will develop products which have the same effect as our products on an independent basis which do not infringe our patents or other intellectual property rights, or will design around the claims of patents that we have had issued that cover our products.

Recent or future patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. In March 2013, under the Leahy-Smith America Invents Act, or America Invents Act, the United States moved from a “first to invent” to a “first-to-file” system. Under a “first-to-file” system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. The America Invents Act includes a number of other significant changes to U.S. patent law, including provisions that affect the way patent applications are prosecuted, redefine prior art and establish a USPTO-administered post-grant review system that has affected patent litigation. The America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to make or use polypeptides or nucleic acids that are similar to our product candidates or components of our product candidates but that are not covered by the claims of our patents;
- the active biological ingredients in our current product candidates will eventually become commercially available in biosimilar drug products, and no patent protection may be available with regard to formulation or method of use;
- we or our licensors, as the case may be, may fail to meet our obligations to the U.S. government in regards to any patents and patent applications funded by U.S. government grants, leading to the loss of patent rights;
- we or our licensors, as the case may be, might not have been the first to file patent applications for these inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies;
- it is possible that our pending patent applications will not result in issued patents;
- it is possible that there are prior public disclosures that could invalidate our or our licensors’ patents, as the case may be, or parts of our or their patents;
- it is possible that others may circumvent our owned or in-licensed patents;
- it is possible that there are unpublished applications or patent applications maintained in secrecy that may later issue with claims covering our products or technology similar to ours;
- the laws of foreign countries may not protect our or our licensors’, as the case may be, proprietary rights to the same extent as the laws of the United States;
- the claims of our owned or in-licensed issued patents or patent applications, if and when issued, may not cover our product candidates or technology;
- our owned or in-licensed issued patents may not provide us with any competitive advantages, may be narrowed in scope, or be held invalid or unenforceable as a result of legal challenges by third parties;
- the inventors of our owned or in-licensed patents or patent applications may become involved with competitors, develop products or processes which design around our patents, or become hostile to us or the patents or patent applications on which they are named as inventors;

- it is possible that our owned or in-licensed patents or patent applications omit individual(s) that should be listed as inventor(s) or include individual(s) that should not be listed as inventor(s), which may cause these patents or patents issuing from these patent applications to be held invalid or unenforceable;
- we have engaged in scientific collaborations in the past and will continue to do so in the future, and such collaborators may develop adjacent or competing products to ours that are outside the scope of our patents;
- we may not develop additional proprietary technologies for which we can obtain patent protection;
- it is possible that product candidates or technology we develop may be covered by third parties' patents or other exclusive rights; or
- the patents of others may have an adverse effect on our business.

***Our proprietary position depends upon patents that are manufacturing, formulation or method-of-use patents, which may not prevent a competitor or other third party from using the same product candidate for another use.***

Composition of matter patents for biological and pharmaceutical products are generally considered to be the strongest form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of making or method of use. We cannot be certain, however, that the claims in our pending patent applications, including those claims covering the composition of matter of our product candidates, will be considered patentable by the USPTO or by patent offices in foreign countries, or that the claims in any of our patents that have issued or may issue will be considered valid and enforceable by courts in the United States or foreign countries. Furthermore, in some cases, we may not be able to obtain issued claims covering compositions of matter relating to our product candidates, and instead may need to rely on filing patent applications with claims covering a method of use and/or method of manufacture. Method of use patents protect a specified method of using a product, such as a method of use for treating a particular medical indication. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their products for our targeted indications, physicians may prescribe these products "off-label" for those uses that are covered by our method of use patents. Although off-label prescriptions may infringe or contribute to the infringement of method of use patents, the practice is common and such infringement is difficult to prevent by enforcing patent rights or otherwise. There can be no assurance that any such patent applications will issue as granted patents, and even if they do issue, such patent claims may be insufficient to prevent third parties, such as our competitors, from utilizing our technology. Any failure to obtain or maintain patent protection with respect to our product candidates could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.***

In addition to the protection afforded by patents, we seek to rely on trade secret protection, confidentiality agreements, and license and other agreements to protect proprietary know-how that is not patentable, processes for which patents are difficult to enforce and any other elements of our product discovery and development processes that involve proprietary know-how, information, or technology that is not covered by patents. We cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition.

Courts outside the United States are sometimes less willing to protect trade secrets. If we choose to go to court to stop a third party from using any of our trade secrets, we may incur substantial costs. These lawsuits may consume our time and other resources even if we are successful. For example, significant elements of our product candidates, including aspects of sample preparation, methods of manufacturing, cell culturing

conditions and related processes are based on unpatented trade secrets that are not publicly disclosed. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees and consultants, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology.

Thus, we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual or entity during the course of the party's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary technology by third parties. We have also adopted policies and conduct training that provides guidance on our expectations, and our advice for best practices, in protecting our trade secrets. However, we cannot provide assurance that these agreements and policies will not be breached by our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors and that our trade secrets and other proprietary and confidential information will not be disclosed to publicly or to competitors.

***Third-party claims of intellectual property infringement may prevent or delay our discovery and development efforts.***

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, reexamination, and post-grant review proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. We may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights alleging that our product candidates and/or proprietary technologies infringe their intellectual property rights. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. Moreover, it is not always clear to industry participants, including us, which patents cover various types of drugs, products or their methods of use or manufacture. Thus, because of the large number of patents issued and patent applications filed in our fields, there may be a risk that third parties may allege they have patent rights encompassing our product candidates, technologies or methods.

If a third party claims that we infringe its intellectual property rights, we may face a number of issues, including, but not limited to:

- infringement and other intellectual property claims which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business;
- substantial damages for infringement, which we may have to pay if a court decides that the product candidate or technology at issue infringes on or violates the third party's rights, and, if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner's attorneys' fees;
- a court prohibiting us from developing, manufacturing, marketing or selling our product candidates, or from using our proprietary technologies, unless the third party licenses its product rights to us, which it is not required to do;
- if a license is available from a third party, we may have to pay substantial royalties, upfront fees and other amounts, and/or grant cross-licenses to intellectual property rights for our products; and



- redesigning our product candidates or processes so they do not infringe third party intellectual property rights, which may not be possible or may require substantial monetary expenditures and time.

Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise have a material adverse effect on our business, results of operations, financial condition and prospects.

Third parties may assert that we are employing their proprietary technology without authorization. Generally, conducting preclinical and clinical trials and other development activities in the United States is not considered an act of infringement. If any of our product candidates is approved by the FDA, a third party may then seek to enforce its patent by filing a patent infringement lawsuit against us. While we do not believe that any claims that could otherwise have a materially adverse effect on the commercialization of our product candidates are valid and enforceable, we may be incorrect in this belief, or we may not be able to prove it in litigation. In this regard, patents issued in the United States by law enjoy a presumption of validity that can be rebutted only with evidence that is "clear and convincing," a heightened standard of proof. There may be issued third-party patents of which we are currently unaware with claims to compositions, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Patent applications can take many years to issue. There may be currently pending patent applications which may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Moreover, we may fail to identify relevant patents or incorrectly conclude that a patent is invalid, not enforceable, exhausted, or not infringed by our activities. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of our product candidates, constructs or molecules used in or formed during the manufacturing process, or any final product itself, the holders of any such patents may be able to block our ability to commercialize the product candidate unless we obtained a license under the applicable patents, or until such patents expire or they are finally determined to be held invalid or unenforceable. Similarly, if any third-party patent were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, including combination therapy or patient selection methods, the holders of any such patent may be able to block our ability to develop and commercialize the product candidate unless we obtained a license or until such patent expires or is finally determined to be held invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms or at all. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, or at all, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business. Even if we obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Parties making claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. Defense of these claims, regardless of their merit, could involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available on commercially reasonable terms or at all. Furthermore, even in the absence of litigation, we may need or may choose to obtain licenses from third parties to advance our research or allow commercialization of our product candidates. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize our product candidates, which could harm our business significantly.

***We may not be successful in obtaining or maintaining necessary rights to product components and processes for our development pipeline through acquisitions and in-licenses.***

Currently, we have certain intellectual property rights under patents and patent applications that we own or have rights to under our inbound license agreements related to our product candidates. Our development of

additional product candidates may require the use of proprietary rights held by third parties, and the growth of our business will likely depend in part on our ability to acquire, in-license or use these proprietary rights.

Our product candidates may also require specific formulations to work effectively and efficiently, and rights to such formulation technology may be held by others. Similarly, efficient production or delivery of our product candidates may also require specific compositions or methods, and the rights to these may be owned by third parties. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, which would harm our business. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights and may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology. Moreover, the specific components, such as linkers and antibody fragments, that will be used with our product candidates may be covered by the intellectual property rights of others.

Additionally, we may collaborate with or sponsor research at academic institutions to accelerate our preclinical research or development under written agreements with these institutions. In certain cases, these institutions may provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration or sponsorship. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

The licensing and acquisition of third-party intellectual property rights is a competitive area, and companies, which may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities.

***We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming and unsuccessful.***

Competitors may infringe our patents or the patents of our licensors. To counter infringement or unauthorized use, we may be required to file lawsuits with infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that one or more of our patents is not valid or is unenforceable or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure.

Post-grant proceedings provoked by third parties or brought by the USPTO may be necessary to determine the validity or priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms, or at all. Litigation or post-grant proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent,

alone or with our licensors, misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

***Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.***

Some of our patent applications have been granted or may be granted or allowed in the future. We cannot be certain that an allowed patent application will become an issued patent. There may be events that can cause the allowance of a patent application to be withdrawn. For example, after a patent application has been allowed, but prior to being issued, material that could be relevant to patentability may be identified. In such circumstances, the applicant may pull the application from allowance in order for the USPTO to review the application in view of the new material. We cannot be certain that the USPTO will re-allow the application in view of the new material. Further, periodic maintenance and annuity fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process and following the issuance of a patent. We rely on our outside counsel and other professionals or our licensing partners to pay these fees due to the USPTO and non-U.S. government patent agencies and to help us comply with other procedural, documentary and other similar requirements and we are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

***Issued patents covering our product candidates or technology could be found invalid or unenforceable if challenged in court or the USPTO.***

Despite the measures we take to obtain and maintain patent and other intellectual property rights with respect to our product candidates, our intellectual property rights could be challenged or invalidated. If we or one of our licensors initiate legal proceedings against a third party to enforce a patent covering one of our product candidates or our technology, the defendant could counterclaim that the patent covering our product candidate or technology, as applicable, is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, *inter partes* review, post-grant review and equivalent proceedings in foreign jurisdictions (such as opposition proceedings). Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover our product candidates or technology. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we, our patent counsel and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, or if we are otherwise unable to adequately protect our rights, we would lose at least part, and perhaps all, of the patent protection on our product candidates or technology. Such a loss of patent protection could have a material adverse impact on our business and our ability to commercialize or license our technology and product candidates.

***Changes to patent law in the United States and in foreign jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products.***

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, the United States continues to adapt to wide-ranging patent reform legislation that became effective starting in 2012. Moreover, recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty regarding our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on new legislation and decisions by the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. For example, in the case *Amgen v. Sanofi*, the Federal Circuit held that broad functional antibody claims are invalid for lack of enablement. While we do not believe that any of the patents owned or licensed by us will be found invalid based on this decision, we cannot predict how future decisions by the courts, Congress or the USPTO may impact the value of our patents. Similarly, changes in the patent laws of other jurisdictions could adversely affect our ability to obtain and effectively enforce our patent rights, which would have a material adverse effect on our business and financial condition.

***We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world.***

We have obtained allowed patents in the United States that we consider to be important for certain of our product candidates, however, we may have less robust intellectual property rights outside the United States, and, in particular, we may not be able to pursue generic coverage of our product candidates outside of the United States. Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Most of our patent portfolio is at the very early stage. We will need to decide whether and in which jurisdictions to pursue protection for the various inventions in our portfolio prior to applicable deadlines.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biopharmaceutical products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

In addition, many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. Many countries also limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors is forced to grant a license to

third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business and financial condition may be adversely affected.

***We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.***

We generally enter into confidentiality and intellectual property assignment agreements with our employees, consultants, and contractors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, those agreements may not be honored and may not effectively assign intellectual property rights to us. Moreover, there may be some circumstances, where we are unable to negotiate for such ownership rights. Disputes regarding ownership or inventorship of intellectual property can also arise in other contexts, such as collaborations and sponsored research. If we are subject to a dispute challenging our rights in or to patents or other intellectual property, such a dispute could be expensive and time consuming. If we were unsuccessful, we could lose valuable rights in intellectual property that we regard as our own.

***We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed confidential information of our competitors or are in breach of non-competition or non-solicitation agreements with our competitors.***

Many of our employees, consultants and advisers were previously employed at other pharmaceutical companies, including our competitors or potential competitors, in some cases until recently. Some of these employees, consultants, advisers, and members of management executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. Although we take steps to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants, advisers, and members of management have inadvertently or otherwise used or disclosed trade secrets or other confidential information of these former employers or competitors. In addition, we may in the future be subject to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against these claims, litigation could result in substantial costs and could be a distraction to management. If our defense to those claims fails, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Any litigation or the threat thereof may adversely affect our ability to hire employees. A loss of key personnel or their work product could hamper or prevent our ability to commercialize product candidates, which could have an adverse effect on our business, results of operations and financial condition.

***In the future, we may in-license intellectual property that may have been discovered through government funded programs and thus may be subject to federal regulations and a preference for U.S.-based companies. Compliance with such regulations may limit our exclusive rights and limit our ability to contract with non-U.S. manufacturers.***

Any of the intellectual property rights that we have licensed or may license in the future and that have been generated through the use of U.S. government funding are subject to certain federal regulations. As a result, the U.S. government may have certain rights to intellectual property embodied in our product candidates pursuant to the Bayh-Dole Act of 1980, or the Bayh-Dole Act. These U.S. government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose, generally referred to as "march-in rights." To our knowledge, none of our current product candidates are subject to march-in rights. However, intellectual property rights that we license in the future could be subject to such limitations. The U.S. government also has the right to take title to such intellectual property rights if we, or the applicable licensor, fail to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us or the applicable licensor to expend substantial resources. We cannot be certain that our current or future licensors will comply with the disclosure or reporting requirements of the Bayh-Dole Act at all times or be able to rectify any lapse in compliance with these requirements.

In addition, the U.S. government requires that any products embodying the subject invention or produced using the subject invention be manufactured substantially in the United States. The manufacturing preference requirement can be waived if the owner of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that, under the circumstances, domestic manufacture is not commercially feasible. This preference for U.S. manufacturers may limit our ability to contract with non-U.S. product manufacturers for products covered by such intellectual property. To the extent any of our current or future intellectual property is generated through the use of U.S. government funding, the provisions of the Bayh-Dole Act may similarly apply.

***If we do not obtain patent term extension for any of our current or future product candidates, our business may be materially harmed.***

Depending upon the timing, duration and specifics of any FDA marketing approval of any of our current or future product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations, and prospects could be materially harmed.

***If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our marks of interest and our business may be adversely affected.***

Our trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks. We rely on both registration and common law protection for our trademarks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. During the trademark registration process, we may receive Office Actions from the USPTO objecting to the registration of our trademark. Although we would be given an opportunity to respond to those objections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and/or to seek the cancellation of registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

***Numerous factors may limit any potential competitive advantage provided by our intellectual property rights.***

The degree of future protection afforded by our intellectual property rights, whether owned or in-licensed, is uncertain because intellectual property rights have limitations, and may not adequately protect our business, provide a barrier to entry against our competitors or potential competitors, or permit us to maintain our competitive advantage. Moreover, if a third party has intellectual property rights that cover the practice of our technology, we may not be able to fully exercise or extract value from our intellectual property rights. The factors that may limit any potential competitive advantage provided by our intellectual property rights include:

- pending patent applications that we own or license may not lead to issued patents;
- patents, should they issue, that we own or license, may not provide us with any competitive advantages, or may be challenged and held invalid or unenforceable;

- others may be able to develop and/or practice technology that is similar to our technology or aspects of our technology but that is not covered by the claims of any of our owned or in-licensed patents, should any such patents issue;
- third parties may compete with us in jurisdictions where we do not pursue and obtain patent protection;
- we (or our licensors) might not have been the first to make the inventions covered by a pending patent application that we own or license;
- we (or our licensors) might not have been the first to file patent applications covering a particular invention;
- others may independently develop similar or alternative technologies without infringing our intellectual property rights;
- we may not be able to obtain and/or maintain necessary licenses on reasonable terms or at all;
- third parties may assert an ownership interest in our intellectual property and, if successful, such disputes may preclude us from exercising exclusive rights, or any rights at all, over that intellectual property;
- we may not be able to maintain the confidentiality of our trade secrets or other proprietary information;
- we may not develop or in-license additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

Should any of these events occur, they could significantly harm our business and results of operation.

#### **Risks Related to Regulatory Approval and Other Legal Compliance Matters**

*Even if we complete the necessary preclinical studies and clinical trials, the regulatory approval process is expensive, time consuming and uncertain and may prevent us from obtaining approvals for the commercialization of some or all of our product candidates. As a result, we cannot predict when or if, and in which territories, we will obtain marketing approval to commercialize a product candidate.*

The research, testing, manufacturing, labeling, approval, selling, marketing, promotion and distribution of drug products are subject to extensive regulation by the FDA and comparable foreign regulatory authorities. We are not permitted to market our product candidates in the United States or in other countries until we receive approval of an NDA or BLA from the FDA or marketing approval from applicable regulatory authorities outside the United States. Our product candidates are in various stages of development and are subject to the risks of failure inherent in development. We have not submitted an application for or received marketing approval for any of our product candidates in the United States or in any other jurisdiction. We have no experience as a company in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party CROs to assist us in this process.

The process of obtaining marketing approvals, both in the United States and abroad, is lengthy, expensive and uncertain. It may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information, including manufacturing information, to regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. The FDA or other regulatory authorities may determine that our product candidates are not safe and effective, only moderately effective or have undesirable or unintended side effects, toxicities or other characteristics that preclude our obtaining marketing approval or prevent or limit commercial use.

In addition, changes in marketing approval policies during the development period, changes in or the enactment or promulgation of additional statutes, regulations or guidance or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. Regulatory authorities have substantial discretion in the approval process and varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product

candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

***Disruptions in the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire and retain key leadership and other personnel, or otherwise prevent new products and services from being developed or commercialized in a timely manner, which could negatively impact our business.***

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

In response to the COVID-19 pandemic, on March 10, 2020, the FDA announced its intention to postpone most inspections of foreign manufacturing facilities, and on March 18, 2020, the FDA temporarily postponed routine surveillance inspections of domestic manufacturing facilities. Subsequently, on July 10, 2020, the FDA announced its intention to resume certain on-site inspections of domestic manufacturing facilities subject to a risk-based prioritization system. The FDA intends to use this risk-based assessment system to identify the categories of regulatory activity that can occur within a given geographic area, ranging from mission critical inspections to resumption of all regulatory activities. Regulatory authorities outside the United States may also impose similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Any delay in obtaining or failure to obtain required approvals could negatively affect our ability or that of any future collaborators to generate revenue from the particular product candidate, which likely would result in significant harm to our financial position and adversely impact our stock price.

***Failure to obtain marketing approval in foreign jurisdictions would prevent our product candidates from being marketed abroad. Any approval we may be granted for our product candidates in the United States would not assure approval of our product candidates in foreign jurisdictions and any of our product candidates that may be approved for marketing in a foreign jurisdiction will be subject to risks associated with foreign operations.***

In order to market and sell our products in the European Union and other foreign jurisdictions, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The marketing approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. We may not obtain approvals from regulatory authorities outside the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. We may file for marketing approvals but not receive necessary approvals to commercialize our products in any market.

In many countries outside the United States, a product candidate must also be approved for reimbursement before it can be sold in that country. In some cases, the price that we intend to charge for our products, if approved, is also subject to approval. Obtaining non-U.S. regulatory approvals and compliance with non-U.S.



regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our product candidates in certain countries. In addition, if we fail to obtain the non-U.S. approvals required to market our product candidates outside the United States or if we fail to comply with applicable non-U.S. regulatory requirements, our target markets will be reduced and our ability to realize the full market potential of our product candidates will be harmed and our business, financial condition, results of operations and prospects may be adversely affected.

Additionally, we could face heightened risks with respect to seeking marketing approval in the United Kingdom as a result of the recent withdrawal of the United Kingdom from the European Union, commonly referred to as Brexit. Pursuant to the formal withdrawal arrangements agreed between the United Kingdom and the European Union, the United Kingdom withdrew from the European Union, effective December 31, 2020. On December 24, 2020, the United Kingdom and the European Union entered into a Trade and Cooperation Agreement. The agreement sets out certain procedures for approval and recognition of medical products in each jurisdiction. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of the Trade and Cooperation Agreement would prevent us from commercializing any product candidates in the United Kingdom and/or the European Union and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the United Kingdom and/or European Union for any product candidates, which could significantly and materially harm our business.

We expect that we will be subject to additional risks in commercializing any of our product candidates that receive marketing approval outside the United States, including tariffs, trade barriers and regulatory requirements; economic weakness, including inflation, or political instability in particular foreign economies and markets; compliance with tax, employment, immigration and labor laws for employees living or traveling abroad; foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country; and workforce uncertainty in countries where labor unrest is more common than in the United States.

***We may not be able to obtain orphan drug designation or orphan drug exclusivity for our product candidates and, even if we do, that exclusivity may not prevent the FDA or the EMA from approving competing products.***

Regulatory authorities in some jurisdictions, including the United States and the European Union, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States. Generally, a product with orphan drug designation only becomes entitled to orphan drug exclusivity if it receives the first marketing approval for the indication for which it has such designation, in which case the FDA or the EMA will be precluded from approving another marketing application for the same product for that indication for the applicable exclusivity period. The applicable exclusivity period is seven years in the United States and ten years in the European Union. The European exclusivity period can be reduced to six years if a product no longer meets the criteria for orphan drug designation or if the product is sufficiently profitable so that market exclusivity is no longer justified.

We may seek orphan drug designations for our product candidates and may be unable to obtain such designations. Even if we do secure such designations and orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different products can be approved for the same condition. Further, the FDA can subsequently approve the same drug for the same condition if the FDA concludes that the later product is clinically superior in that it is shown to be safer, to be more effective or to make a major contribution to patient care. Finally, orphan drug exclusivity may be lost if the FDA or the EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

***Any product candidate for which we obtain marketing approval is subject to ongoing regulation and could be subject to restrictions or withdrawal from the market, and we may be subject to substantial penalties if we fail to comply with regulatory requirements, when and if any of our product candidates are approved.***

Any product candidate for which we obtain marketing approval will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety

and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to quality control and manufacturing, quality assurance and corresponding maintenance of records and documents, and requirements regarding the distribution of samples to physicians and recordkeeping. In addition, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval or contain requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the medicine, including the requirement to implement a risk evaluation and mitigation strategy. Accordingly, if we receive marketing approval for one or more of our product candidates, we will continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production, product surveillance and quality control. If we fail to comply with these requirements, we could have the marketing approvals for our products withdrawn by regulatory authorities and our ability to market any products could be limited, which could adversely affect our ability to achieve or sustain profitability.

We must also comply with requirements concerning advertising and promotion for any of our product candidates for which we obtain marketing approval. Promotional communications with respect to prescription products are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved labeling. Thus, we will not be able to promote any products we develop for indications or uses for which they are not approved. The FDA and other agencies, including the Department of Justice closely regulate and monitor the post-approval marketing and promotion of products to ensure that they are marketed and distributed only for the approved indications and in accordance with the provisions of the approved labeling. Violations of the Federal Food, Drug, and Cosmetic Act and other statutes, including the False Claims Act, relating to the promotion and advertising of prescription products may lead to investigations and enforcement actions alleging violations of federal and state health care fraud and abuse laws, as well as state consumer protection laws.

Failure to comply with regulatory requirements, may yield various results, including:

- restrictions on such products, manufacturers or manufacturing processes;
- restrictions on the labeling or marketing of a product;
- restrictions on distribution or use of a product;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- damage to relationships with collaborators;
- unfavorable press coverage and damage to our reputation;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of our products;
- product seizure;
- injunctions or the imposition of civil or criminal penalties; and
- litigation involving patients using our products.

Non-compliance with EU requirements regarding safety monitoring or pharmacovigilance, and with requirements related to the development of products for the pediatric population, can also result in significant financial penalties. Similarly, failure to comply with the European Union's requirements regarding the protection of personal information can also lead to significant penalties and sanctions.

***We may seek certain designations for our product candidates, including Breakthrough Therapy, Fast Track and Priority Review designations in the United States, but we might not receive such designations, and even if we do, such designations may not lead to a faster development or regulatory review or approval process.***

We may seek certain designations for one or more of our product candidates that could expedite review and approval by the FDA. A Breakthrough Therapy product is defined as a product that is intended, alone or in combination with one or more other products, to treat a serious condition, and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For products that have been designated as Breakthrough Therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens.

The FDA may also designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track products, sponsors may have greater interactions with the FDA and the FDA may initiate review of sections of a Fast Track product's application before the application is complete. This rolling review may be available if the FDA determines, after preliminary evaluation of clinical data submitted by the sponsor, that a Fast Track product may be effective.

We may also seek a priority review designation for one or more of our product candidates. If the FDA determines that a product candidate offers major advances in treatment or provides a treatment where no adequate therapy exists, the FDA may designate the product candidate for priority review. A priority review designation means that the goal for the FDA to review an application is six months, rather than the standard review period of ten months.

These designations are within the discretion of the FDA. Accordingly, even if we believe that one of our product candidates meets the criteria for these designations, the FDA may disagree and instead determine not to make such designation. Further, even if we receive a designation, the receipt of such designation for a product candidate may not result in a faster development or regulatory review or approval process compared to products considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualifies for these designations, the FDA may later decide that the product candidates no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

***Current and future legislation may increase the difficulty and cost for us to obtain reimbursement for any of our candidate products that do receive marketing approval.***

In the United States and foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we may receive for any approved products. If reimbursement of our products is unavailable or limited in scope, our business could be materially harmed.

The ACA substantially changed the way healthcare is financed by both governmental and private insurers and continues to significantly impact the U.S. pharmaceutical industry. Since enactment of the ACA, there have been numerous legal challenges and Congressional actions to repeal and replace provisions of the law. For example, with enactment of the Tax Act in 2017, Congress repealed the tax-based shared responsibility payment, known as the "individual mandate." The repeal of this provision, which required most Americans to carry a minimal level of health insurance, became effective in 2019. The Trump Administration also took executive actions to undermine or delay implementation of the ACA, including directing federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers or manufacturers of pharmaceuticals or medical devices. Further, on June 17, 2021 the U.S. Supreme Court dismissed a challenge on procedural grounds that argued

the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress. Thus, the ACA will remain in effect in its current form. Further, prior to the U.S. Supreme Court ruling, on January 28, 2021, President Biden issued an executive order that initiated a special enrollment period for purposes of obtaining health insurance coverage through the Affordable Care Act marketplace, which began on February 15, 2021 and remained open through August 15, 2021. The executive order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. It is possible that the ACA will be subject to judicial or Congressional challenges in the future. It is unclear how such other challenges to repeal or replace the ACA or the health reform measures of the Biden administration will impact the ACA or our business.

***Current and future legislative efforts may limit the prices for our products, if and when they are licensed for marketing, and that could materially impact our ability to generate revenues.***

The costs of prescription pharmaceuticals have also been the subject of considerable discussion in the United States. In recent years, there have been several U.S. congressional inquiries, executive orders and policy initiatives, as well as proposed and enacted state and federal legislation designed to, among other things, implement drug pricing reform, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products. To those ends, the Trump Administration finalized a rule allowing states or certain other non-federal government entities to submit importation program proposals to the FDA for review and approval. Applicants are required to demonstrate that their importation plans pose no additional risk to public health and safety and will result in significant cost savings for consumers. The FDA has issued guidance that allows manufacturers to import their own FDA-approved drugs that are authorized for sale in other countries (multi-market approved products).

Further, former President Trump issued several executive orders intended to lower the costs of prescription drug products. Several of these orders are reflected in recently promulgated regulations, and one of these regulations is currently subject to a nationwide preliminary injunction. The Biden Administration has frozen or delayed certain of the previous administration's measures to reform drug prices. It remains to be seen how the Biden Administration will address this issue but, under Medicare Part D, the new administration may seek to establish a ceiling for the launch prices of all branded, biologic, and certain generic drugs by referencing the average price of these drugs in other developed countries. Specifically, on July 9, 2021, President Biden signed Executive Order 14063, which focuses on, among other things, the price of pharmaceuticals. To address these costs, the order directs the Department of Health and Human Services to create a plan within 45 days to combat "excessive pricing of prescription drugs and enhance domestic pharmaceutical supply chains, to reduce the prices paid by the federal government for such drugs, and to address the recurrent problem of price gouging." More recently, on August 10, 2021, CMS issued a new proposed rule that rescinded the previous administration's "Most Favored Nation" drug pricing initiative under which Medicare Part B reimbursement for certain drugs would be based on lower prices in other countries, which had been the subject of substantial litigation. With issuance of the proposed rule, CMS stated that it will continue to carefully consider the comments it received on the November 2020 interim final rule as it explores all options to incorporate value into payments for Medicare Part B drugs and improve beneficiaries' access to evidence-based care. At the same time, the administration may seek to limit Medicare Part D and public option drug prices through a tax penalty on manufacturers for increases in the cost of drugs and biologics above the general inflation rate. The American Rescue Plan Act of 2021, comprehensive COVID-19 relief legislation recently enacted under the Biden Administration, includes a number of healthcare-related provisions, such as support to rural health care providers, increased tax subsidies for health insurance purchased through insurance exchange marketplaces, financial incentives to states to expand Medicaid programs and elimination of the Medicaid drug rebate cap effective in 2024. We expect that additional U.S. federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that the U.S. federal government will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures,

and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Finally, outside the United States, in some nations, including those of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control and access. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we or our collaborators may be required to conduct a clinical trial that compares the cost-effectiveness of our product to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed.

***We may be subject to certain healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, fines, disgorgement, exclusion from participation in government healthcare programs, curtailment or restricting of our operations, and diminished future profits and earnings, if any.***

Healthcare providers, third-party payors and others will play a primary role in the recommendation and prescription of any products for which we obtain marketing approval. Our current and future arrangements with healthcare providers and third-party payors will expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we research as well as market, sell and distribute any products for which we obtain marketing approval. Potentially applicable U.S. federal and state healthcare laws and regulations include the following:

- ***Anti-Kickback Statute.*** The federal Anti-Kickback Statute prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid.
- ***False Claims Laws.*** The federal false claims laws and civil monetary penalties laws, including the civil False Claims Act and the Civil Monetary Penalty Law, impose criminal and civil penalties, including those from civil whistleblower or qui tam actions against individuals or entities for knowingly presenting, or causing to be presented to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government.
- ***HIPAA.*** The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for, among other things, executing or attempting to execute a scheme to defraud any healthcare benefit program.
- ***HIPAA and HITECH.*** HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or the HITECH Act, also imposes obligations on certain types of individuals and entities, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information.
- ***False Statements Statute.*** The federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services.
- ***Transparency Requirements.*** The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics, and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions, to report annually to the Department of Health and Human Services information related to payments and other

transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors) and ownership and investment interests by physicians and their immediate family members. Beginning in 2022, applicable manufacturers also will be required to report such information regarding its payments and other transfers of value to physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists and certified nurse midwives during the previous year.

- *Analogous State and Foreign Laws.* Analogous state laws and regulations, such as state anti-kickback and false claims laws, and transparency laws, may apply to sales or marketing arrangements, and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, in addition to requiring manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures. Many state laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. Foreign laws also govern the privacy and security of health information in many circumstances.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is prohibited in the European Union. Payments made to physicians in certain European Union Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual European Union Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Efforts to ensure that our business arrangements with third parties, and our business generally, will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, disgorgement, contractual damages, and reputational harm, any of which could substantially disrupt our operations. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

***Compliance with state, national and international privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to a variety of harms, including significant fines and penalties, litigation and reputational damage, any of which may have a material adverse effect on our business, financial condition or results of operations.***

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate or are likely to operate has established its own data security and privacy frameworks with which we must comply. For example, the collection, use, disclosure, transfer, or other processing of personal data regarding individuals in the European Union, including personal health data, is subject to the EU General Data Protection Regulation, or the GDPR, which took effect across all member states of the European Economic Area, or EEA, in May 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including strict rules on the transfer of personal data to countries outside the European Union, including the United States.

Our efforts to comply with GDPR or other applicable European Union laws and regulations may not be successful, or may be perceived to be unsuccessful, which could adversely affect our business in the European Union. Further, a decision from the European Court of Justice, or ECJ, invalidated the EU-U.S. Privacy Shield and also raised questions about the continued validity of one of the primary alternatives to the EU-U.S. Privacy Shield, namely the European Commission's Standard Contractual Clauses. European Union regulators have also issued additional guidance regarding considerations and requirements that we and other companies must consider and undertake when using the Standard Contractual Clauses. Although the European Union has presented a new draft set of contractual clauses, at present, there are few, if any, viable alternatives to the EU-U.S. Privacy Shield and the Standard Contractual Clauses. The ECJ's decision and other regulatory guidance or developments otherwise may impose additional obligations with respect to the transfer of personal data from the European Union and Switzerland to the United States, each of which could restrict our activities in those jurisdictions, limit our ability to provide our products and services in those jurisdictions, or increase our costs and obligations and impose limitations upon our ability to efficiently transfer personal data from the European Union and Switzerland to the United States.

Brexit has complicated data protection regulation in the United Kingdom because, as of January 1, 2021, the GDPR has been converted into United Kingdom law and the United Kingdom is now a "third country" under the GDPR, subject to a transition period of up to six months. Unless the European Commission makes an 'adequacy finding' in respect of the United Kingdom before the expiration of the transition period, the United Kingdom will become an 'inadequate third country' under the GDPR and transfers of data from the EEA to the United Kingdom will require a 'transfer mechanism,' such as the standard contractual clauses. Furthermore, following the expiration of the specified period, there will be increasing scope for divergence in application, interpretation and enforcement of the data protection law as between the United Kingdom and EEA.

As a result, there is increased scrutiny on the extent to which clinical trial sites located in the EEA should apply the GDPR to transfers of personal data from such sites to countries that are considered to lack an adequate level of data protection, such as the United States. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information and/or impose substantial fines for violations of the GDPR, which can be up to four percent of global revenues or 20 million Euros, whichever is greater, and it also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that EU member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric or health data.

Actions are either in place or under way in the United States to enact similar legislation. There are a broad variety of data protection laws that are applicable to our activities, and a wide range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns based on general consumer protection laws. The Federal Trade Commission and state Attorneys General all are aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered at both the state and federal levels. For example, the California Consumer Privacy Act, or CCPA, which went into effect on January 1, 2020, is creating similar risks and obligations as those created by GDPR, though the Act does exempt certain information collected as part of a clinical trial subject to the Federal Policy for the Protection of Human Subjects (the Common Rule). Many other states are considering similar legislation. A broad range of legislative measures also have been introduced at the federal level. Accordingly, failure to comply with federal and state laws (both those currently in effect and future legislation) regarding privacy and security of personal information could expose us to fines and penalties under such laws. There also is the threat of consumer class actions related to these laws and the overall protection of personal data. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

Additionally, California voters approved a new privacy law, the California Privacy Rights Act, or CPRA, in the November 3, 2020 election. Effective starting on January 1, 2023, the CPRA will significantly modify the CCPA, including by expanding consumers' rights with respect to certain sensitive personal information. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA.

In addition to the foregoing, any breach of privacy laws or data security laws, particularly resulting in a significant security incident or breach involving the misappropriation, loss or other unauthorized use or disclosure of sensitive or confidential patient or consumer information, could have a material adverse effect on our business, reputation and financial condition. As a data controller, we will be accountable for any third-party service providers we engage to process personal data on our behalf, including our CROs. There is no assurance that privacy and security-related safeguards we implement will protect us from all risks associated with the third-party processing, storage and transmission of such information.

New legislation proposed or enacted in Illinois, Massachusetts, Nevada, New Jersey, New York, Rhode Island, Virginia, Washington and other states, and a proposed right to privacy amendment to the Vermont Constitution, imposes, or has the potential to impose, additional obligations on companies that collect, store, use, retain, disclose, transfer and otherwise process confidential, sensitive and personal information, and will continue to shape the data privacy environment nationally. State laws are changing rapidly and there is discussion in Congress of a new federal data protection and privacy law to which we would become subject if it is enacted. There is also discussion of an executive order on cybersecurity that could affect how we collect and process information. All of these evolving compliance and operational requirements impose significant costs that are likely to increase over time, may require us to modify our data processing practices and policies, divert resources from other initiatives and projects, and could restrict the way products and services involving data are offered, all of which could significantly harm our business, financial condition, results of operations and prospects. Further, certain state laws may be more stringent or broader in scope, or offer greater individual rights, with respect to confidential, sensitive and personal information than federal, international or other state laws, and such laws may differ from each other, which may complicate compliance efforts.

Given the breadth and depth of changes in data protection obligations, preparing for and complying with such requirements is rigorous and time intensive and requires significant resources and a review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors or consultants that process or transfer personal data. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business, and could lead to government enforcement actions, private litigation and significant fines and penalties against us and could have a material adverse effect on our business, financial condition or results of operations.

***We are subject to U.S. and certain foreign export control, import, sanctions, anti-corruption, and anti-money laundering laws and regulations with respect to our operations and non-compliance with such laws can subject us to criminal and/or civil liability and harm our business.***

We are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Control, the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 202, the U.S. Travel Act, the USA PATRIOT Act, and other state and national anti-bribery and anti-money laundering laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, third-party intermediaries, joint venture partners and collaborators from authorizing, promising, offering or providing, directly or indirectly, improper payments or benefits to recipients in the public or private sector. We may have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities and other organizations. In addition, we may engage third party intermediaries to promote our clinical research activities abroad and/or to obtain necessary permits, licenses, and other regulatory approvals. We can be held liable for the corrupt or other illegal activities of these third-party intermediaries, our employees, representatives, contractors, partners and agents, even if we do not explicitly authorize or have actual knowledge of such activities.

Noncompliance with the laws and regulations described above could subject us to whistleblower complaints, investigations, sanctions, settlements, prosecution, other enforcement actions, disgorgement of profits, significant fines, damages, other civil and criminal penalties or injunctions, suspension and/or debarment from contracting with certain persons, the loss of export privileges, reputational harm, adverse media coverage



and other collateral consequences. If any subpoenas, investigations or other enforcement actions are launched, or governmental or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations and financial condition could be materially harmed. In addition, responding to any action will likely result in a materially significant diversion of management's attention and resources and significant defense and compliance costs and other professional fees. In certain cases, enforcement authorities may even cause us to appoint an independent compliance monitor which can result in added costs and administrative burdens.

***If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could harm our business.***

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. From time to time and in the future, our operations may involve the use of hazardous and flammable materials, including chemicals and biological materials, and may also produce hazardous waste products. Even if we contract with third parties for the disposal of these materials and waste products, we cannot completely eliminate the risk of contamination or injury resulting from these materials. In the event of contamination or injury resulting from the use or disposal of our hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

We maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, however this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. Current or future environmental laws and regulations may impair our research, development or production efforts. In addition, failure to comply with these laws and regulations may result in substantial fines, penalties or other sanctions.

***Our employees, independent contractors, CROs, consultants, commercial partners, vendors and principal investigators may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements.***

We are exposed to the risk of fraud or other misconduct by our employees, independent contractors, CROs, consultants, commercial partners, vendors and, if we commence clinical trials, our principal investigators. Misconduct by these parties could include intentional failures to comply with FDA regulations or the regulations applicable in the European Union and other jurisdictions, provide accurate information to the FDA, the European Commission and other regulatory authorities, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately, or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements.

Such misconduct also could involve the improper use of information obtained in the course of clinical trials or interactions with the FDA or other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation. Even with appropriate policies and procedures, it is not always possible to identify and deter misconduct, and the precautions we take to detect and prevent such activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, financial condition, results of operations and prospects, including the imposition of significant fines or other sanctions.

**Risks Related to Our Business Operations, Employee Matters and Managing Growth*****Our future success depends on our ability to retain key employees, consultants and advisors and to attract, retain and motivate qualified personnel.***

We are highly dependent on the management, research and development, clinical, financial and business development expertise of our executive officers, as well as the other members of our scientific and clinical teams. Although we have employment offer letters which outline the terms of employment with each of our executive officers, each of them may terminate their employment with us at any time. As such, these employment offer letters do not guarantee our retention of our executive officers for any period of time. In addition, insurance coverage is increasingly expensive, including with respect to directors and officers' liability insurance, or D&O insurance. We may not be able to maintain D&O insurance at a reasonable cost or in an amount adequate to satisfy any liability that may arise. An inability to secure and maintain D&O insurance may make it difficult for us to retain and attract talented and skilled directors and officers to serve our company, which could adversely affect our business. We do not maintain "key person" insurance for any of our employees.

Recruiting and retaining qualified scientific and clinical personnel and, if we are successful in obtaining marketing approval for our product candidates, sales and marketing personnel, is and will be critical to our success. The loss of the services of our executive officers or other key employees could impede, delay or prevent the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and other key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval for and commercialize products in the life sciences industry, and specifically our product candidates. We are based in Massachusetts, a state that is home to many other biopharmaceutical companies as well as many academic and research institutions, resulting in fierce competition for qualified personnel. Furthermore, to the extent we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited or that they have divulged proprietary or other confidential information, or that their former employers own their research output. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited and could adversely affect our business, prospects, financial condition and results of operations.

***We expect to grow our organization, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.***

As of September 30, 2021, we had 69 full-time employees. We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of clinical development, regulatory affairs, finance and, if any of our product candidates receive marketing approval, sales, marketing and distribution. Our management may need to divert a disproportionate amount of its attention away from our day-to-day activities to devote time to managing these growth activities. To manage these growth activities, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Our inability to effectively manage the expansion of our operations may result in weaknesses in our infrastructure, and could give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. If our management is unable to effectively manage our

expected growth, our expenses may increase more than expected, our potential ability to generate revenue could be reduced and we may not be able to implement our business strategy.

***We depend on our information technology systems and associated third-party service providers, and any failure of these systems could harm our business. Security breaches, loss of data, inability to access systems, and other disruptions could compromise sensitive information related to our business or prevent us from accessing critical information and expose us to liability, which could adversely affect our business, results of operations and financial condition.***

We collect and maintain information in digital and other forms that is necessary to conduct our business, and we are increasingly dependent on information technology systems and infrastructure to operate our business. In the ordinary course of our business, we collect, store and transmit large amounts of confidential information, including intellectual property, proprietary business information and personal information. It is critical that we do so in a secure manner to maintain the privacy, security, confidentiality, availability and integrity of such confidential information. Our internal information technology systems and infrastructure, and those of our contractors, consultants, vendors, service providers and other third parties on which we rely, are vulnerable to damage or unauthorized access or use resulting from computer viruses, malware, natural disasters, terrorism, war, telecommunication and electrical failures, cyber-attacks or cyber-intrusions over the Internet, denial or degradation of service attacks, ransomware, hacking, phishing and other social engineering attacks, attachments to emails, intentional or accidental actions or inactions by persons inside our organization or by persons with access to systems inside our organization.

The risk of a security breach or disruption or data loss, particularly through cyber-attacks or cyber intrusion, including by computer hackers, supply chain attacks, foreign governments and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. In addition, the prevalent use of mobile devices that access confidential information increases the risk of lost or stolen devices, security incidents and data security breaches, which could lead to the loss of confidential information or other intellectual property. As a result of the COVID-19 pandemic, we may face increased risks of a security breach or disruption due to our reliance on internet technology and the number of our employees who are working remotely, which may create additional opportunities for cybercriminals to exploit vulnerabilities. The costs to us to mitigate network security problems, bugs, viruses, worms, malicious software programs and security vulnerabilities could be significant, and while we have implemented security measures to protect our data security and information technology systems, our efforts to address these problems may not be successful, and these problems could result in unexpected interruptions, delays, cessation of service, negative publicity and other harm to our business and our competitive position. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our product development programs.

Any security compromise affecting us, our partners, our service providers or our industry, whether real or perceived, could harm our reputation, erode confidence in the effectiveness of our security measures and lead to regulatory scrutiny. If such an event were to occur and cause interruptions in our operations or result in the unauthorized acquisition of or access to personally identifiable information or individually identifiable health information (violating certain privacy laws, as applicable, such as HIPAA, CCPA, HITECH and GDPR), it could result in a material disruption of our discovery and development programs and our business operations, whether due to a loss of our trade secrets or other similar disruptions. Some of the federal, state and foreign government requirements include obligations of companies to notify individuals of security breaches involving particular personally identifiable information, which could result from breaches experienced by us or by our vendors, contractors, or organizations with which we have formed strategic relationships. Notifications and follow-up actions related to a security breach could impact our reputation, cause us to incur significant costs, including legal expenses and remediation costs. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the lost data. We would also be exposed to a risk of loss, governmental investigations or enforcement, or litigation and potential liability, any of which could materially adversely affect our business, results of operations and financial condition.

***A variety of risks associated with marketing our product candidates internationally, if approved, could materially adversely affect our business.***

We also plan to seek regulatory approval of our product candidates outside of the United States and, accordingly, we expect that we will be subject to additional risks related to operating, including conducting marketing and sales activities, in international jurisdictions if we obtain the necessary approvals, including:

- regulatory requirements in foreign countries that differ from those in the United States;
- unexpected changes in tariffs, trade barriers, price and exchange controls and other regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- complexities associated with managing multiple payor reimbursement regimes, government payors or patient self-pay systems;
- difficulties staffing and managing foreign operations;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential liability under the FCPA or other comparable foreign regulations;
- challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism or natural disasters including pandemics or other outbreaks of infectious disease, earthquakes, typhoons, floods and fires.

Any of these factors, along with other risks associated with international operations, could materially adversely affect our future international expansion and operations and, consequently, our results of operations.

***We may engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.***

From time to time, we may consider strategic transactions, such as acquisitions of companies, asset purchases and out-licensing or in-licensing of intellectual property, products or technologies. Additional potential transactions that we may consider in the future include a variety of business arrangements, including spin-offs, strategic partnerships, joint ventures, restructurings, divestitures, business combinations and investments. Any future transactions could increase our near and long-term expenditures, result in potentially dilutive issuances of our equity securities, including our common stock, or the incurrence of debt, contingent liabilities, amortization expenses or acquired in-process research and development expenses, any of which could affect our financial condition, liquidity and results of operations. Future acquisitions may also require us to obtain additional financing, which may not be available on favorable terms or at all. These transactions may not be successful and may require significant time and attention of management. In addition, the integration of any business that we may acquire in the future may disrupt our existing business and may be a complex, risky and costly endeavor for which we may never realize any or all potential benefits of the acquisition. Accordingly, although there can be no assurance that we will undertake or successfully complete any additional transactions of the nature described above, any additional transactions that we do complete could have a material adverse effect on our business, results of operations, financial condition and prospects.

***The COVID-19 pandemic may affect our ability to initiate and complete preclinical studies, delay the initiation of our planned and any future clinical trials, disrupt regulatory activities, or have other adverse effects on our business and operations. In addition, this pandemic has caused substantial disruption in the financial markets and may adversely impact economies worldwide, each of which could result in adverse effects on our business, on raising capital and on our operations.***

The COVID-19 pandemic has caused and continues to cause many governments to implement measures to slow the spread of the outbreak through quarantines, travel restrictions, heightened border scrutiny and other measures. The outbreak and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; consumer confidence has declined; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. While the FDA approved emergency use authorization of vaccines in December 2020, it is still expected to take many months to complete widespread vaccinations. Therefore, the future progression of the outbreak and its effects on our business and operations continue to be uncertain. We and our CMOs and CROs may face disruptions in the future that affect our ability to initiate and complete preclinical studies, including recruitment and retention of critical employees, and disruptions in procuring items that are essential for our research and development activities, such as raw materials used in the manufacture of any product candidates we may develop, laboratory supplies used in our preclinical studies, or animals that are used for preclinical testing for which there are shortages because of ongoing efforts to address the outbreak. For example, in 2020, we experienced a temporary shortage of raw material used in the manufacturing process for one of our product candidates. We may experience additional delays in the future as a result of the COVID-19 pandemic or otherwise, which could delay our product development timelines. We and our CMOs and CROs may also face disruptions related to our future IND-enabling studies and clinical trials arising from delays in preclinical studies, manufacturing disruptions, and the ability to obtain necessary IRB, IBC or other necessary site approvals, as well as other delays at clinical trial sites. The global response to the COVID-19 pandemic may redirect resources with respect to regulatory and intellectual property matters in a way that could adversely impact our ability to progress regulatory approvals and protect our intellectual property. In addition, we may face impediments to regulatory meetings and approvals due to measures intended to limit in-person interactions. The pandemic has caused significant disruptions in the financial markets, and may continue to cause such disruptions, which could impact our ability to raise additional funds through public offerings and may also impact the volatility of our stock price and trading in our stock. Moreover, the pandemic has significantly impacted economies worldwide, which could result in adverse effects on our business and operations. We cannot be certain what the overall impact of the COVID-19 pandemic will be on our business and it has the potential to adversely affect our business, financial condition, results of operations and prospects.

***Our operations or those of the third parties upon whom we depend might be affected by the occurrence of a natural disaster, pandemic or other catastrophic event.***

We depend on our employees, consultants, CMOs, CROs, as well as regulatory agencies and other parties, for the continued operation of our business. While we maintain disaster recovery plans, they might not adequately protect us. Despite any precautions we take for natural disasters or other catastrophic events, these events, including terrorist attacks, pandemics, hurricanes, fires, floods and ice and snowstorms, could result in significant disruptions to our research and development, preclinical studies, clinical trials, and, ultimately, commercialization of our products. Long-term disruptions in the infrastructure caused by events, such as natural disasters, the outbreak of war, the escalation of hostilities and acts of terrorism or other “acts of God,” particularly involving cities in which we have offices, manufacturing or clinical trial sites, could adversely affect our businesses. Although we carry business interruption insurance policies and typically have provisions in our contracts that protect us in certain events, our coverage might not include or be adequate to compensate us for all losses that may occur. Any natural disaster or catastrophic event affecting us, our CMOs, our CROs, regulatory agencies or other parties with which we are engaged could have a material adverse effect on our operations and financial performance.

### **Risks Related to this Offering, Ownership of Our Common Stock and Our Status as a Public Company**

***An active trading market for our common stock may not develop and you may not be able to resell your shares of our common stock at or above the initial offering price, if at all.***

Prior to this offering, no market for shares of our common stock existed and an active trading market for our shares may never develop or be sustained following this offering. We cannot predict the extent to which an active market for our common stock will develop or be sustained after this offering, or how the development of such a market might affect the market price for our common stock. The initial public offering price for our common stock will be determined through negotiations with the underwriters and may not be indicative of the market price of our common stock after this offering. Although we have applied to list our common stock on the Nasdaq Global Market, or Nasdaq, an active trading market for our shares may never develop or be sustained following this offering. If an active market for our common stock does not develop or is not sustained, it may be difficult for you to sell shares you purchased in this offering at an attractive price or at all.

***The price of our common stock could be subject to volatility related or unrelated to our operations and your investment in us could suffer a decline in value.***

The market price of our common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control. The stock market in general and the market for biotechnology and pharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may not be able to sell their common stock at or above the initial public offering price. The market price for our common stock may be influenced by many factors, including:

- the results from our preclinical studies;
- the commencement, enrollment or results of any future clinical trials we may conduct, or changes in the development status of our product candidates;
- adverse results from, delays in initiating or completing, or termination of clinical trials;
- unanticipated serious safety concerns related to the use of our product candidates;
- clinical trial results from, or regulatory developments regarding, a competitor's product candidate;
- adverse regulatory decisions, including failure to receive regulatory approval of our product candidates;
- regulatory or legal developments in the United States and foreign countries;
- any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including without limitation the FDA's issuance of a "refusal to file" letter or a request for additional information;
- the public's response to press releases or other public announcements by us or third parties, including our filings with the Securities and Exchange Commission, or the SEC, and announcements relating to acquisitions, strategic transactions, licenses, joint ventures, capital commitments, intellectual property, litigation or other disputes impacting us or our business;
- lower than expected market acceptance of our product candidates following approval for commercialization;
- adverse developments concerning our manufacturers;
- our inability to obtain adequate product supply for any approved product or inability to do so at acceptable prices;
- variations in the level of expenses related to our preclinical and clinical development programs, including relating to the timing of invoices from, and other billing practices of, our CROs and clinical trial sites;
- variations in the level of expenses related to our commercialization activities, if any product candidates are approved;

- the clinical results of our competitors or potential competitors;
- introduction of new products or services by our competitors;
- changes in financial estimates by us or by any securities analysts who might cover our stock;
- conditions or trends in our industry;
- our cash position;
- sales of our common stock by us or our stockholders in the future;
- adoption of new, or changes to current accounting standards;
- ineffectiveness of our internal controls;
- changes in the market valuations of similar companies;
- stock market price and volume fluctuations of comparable companies and, in particular, those that operate in the biotechnology and pharmaceutical industry;
- publication of research reports about us or our industry or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- announcements by us or our competitors of significant acquisitions, strategic partnerships or divestitures;
- announcements of investigations or regulatory scrutiny of our operations or lawsuits filed against us;
- changes in the structure of healthcare payment systems;
- investors' general perception of our company and our business;
- overall performance of the equity markets;
- trading volume of our common stock;
- potential inclusion or exclusion of our common stock in exchange, industry, or other tracking indices;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies and product candidates;
- significant lawsuits, including patent or stockholder litigation;
- proposed changes to healthcare laws, intellectual property laws or pharmaceutical pricing in the United States or foreign jurisdictions, or speculation regarding such changes;
- the expiration of market standoff or contractual lock-up agreements and future sales of our common stock by our officers, directors and significant stockholders;
- recruitment or departure of key personnel;
- developments with respect to the COVID-19 pandemic;
- general political and economic conditions; and
- other events or factors, many of which are beyond our control.

In addition, in the past, stockholders have initiated class action lawsuits against pharmaceutical and biotechnology companies following periods of volatility in the market prices of these companies' stock. This risk is especially relevant for us because biopharmaceutical companies have experienced significant stock price volatility in recent years. Such litigation, if instituted against us, could cause us to incur substantial costs and divert management's attention and resources from our business.

***If securities or industry analysts do not publish research or reports about our company, or if they issue unfavorable or inaccurate research regarding our business, our stock price and trading volume could decline.***

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. We do not currently have research coverage by securities

and industry analysts, and if no significant coverage is initiated or maintained following this offering, the market price for our common stock may be adversely affected. If no securities or industry analysts commence coverage of our company, the trading price for our stock would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who cover us downgrades our stock or publishes unfavorable or inaccurate research about our business, our stock price may decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

***Unfavorable global economic conditions could adversely affect our business, financial condition, stock price and results of operations.***

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. For example, the 2008 global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, such as the 2008 global financial crisis, could result in a variety of risks to our business, including, weakened demand for any product candidates we may develop and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption. If the current equity and credit markets deteriorate, it may make any necessary debt or equity financing more difficult, more costly, and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that one or more of our current service providers, manufacturers and other partners may not survive such difficult economic times, which could directly affect our ability to attain our operating goals on schedule and on budget. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business. Furthermore, our stock price may decline due in part to the volatility of the stock market and any general economic downturn.

***Our principal stockholders and management own a significant percentage of our common stock and will be able to exert significant control over matters subject to stockholder approval.***

Upon the completion of this offering, based on shares outstanding as of September 30, 2021, our executive officers, directors, holders of 5% or more of our common stock and their respective affiliates will beneficially own shares in the aggregate representing approximately 36.1% of our outstanding common stock, assuming no exercise of the underwriters' option to purchase additional shares in this offering and assuming we issue the number of shares of common stock as set forth on the cover page of this prospectus.

As a result of their share ownership, these stockholders, if they act together, will have the ability to influence our management and policies and will be able to significantly affect the outcome of matters requiring stockholder approval such as elections of directors, amendments of our organizational documents or approvals of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that our stockholders may feel are in their best interest.

Some of these persons or entities may have interests different than yours. For example, because many of these stockholders purchased their shares at prices substantially below the price at which shares are being sold in this offering and have held their shares for a longer period, they may be more interested in selling our company to an acquirer than other investors, or they may want us to pursue strategies that deviate from the interests of other stockholders. In addition, this concentration of ownership might adversely affect the market price of our common stock by:

- delaying, deferring or preventing a change of control of us;
- entrench our management and board of directors;
- impeding a merger, consolidation, takeover or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

See "Principal Stockholders" in this prospectus for more information regarding the ownership of our outstanding common stock by our executive officers, directors, principal stockholders and their affiliates.



***We will have broad discretion regarding use of our cash and cash equivalents and the net proceeds from this offering, and we may not use them effectively.***

Our management will have broad discretion in the application of our existing cash and cash equivalents and the net proceeds from this offering, including for any of the purposes described in the section of this prospectus entitled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether such proceeds are being used appropriately. We could utilize the net proceeds in ways our stockholders may not agree with or that do not yield a favorable return, if any. Because of the number and variability of factors that will determine our use of our existing cash and cash equivalents and the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our existing cash and cash equivalents and the net proceeds from this offering in ways that ultimately increase the value of your investment. Investors in this offering will need to rely upon the judgment of our management with respect to the use of proceeds. The failure by our management to apply these funds effectively could harm our business, financial condition, results of operations and prospectus and could cause the price of our common stock to decline. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing investments. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

***Purchasers in this offering will experience immediate and substantial dilution in the book value of their investment.***

The assumed initial public offering price of our common stock is substantially higher than the pro forma as adjusted net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our pro forma as adjusted net tangible book value per share after this offering. Based on an assumed initial public offering price of \$17.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, you will experience immediate dilution of \$9.08 per share as of June 30, 2021, representing the difference between our pro forma as adjusted net tangible book value per share after this offering and the assumed initial public offering price. In addition, to the extent outstanding stock options are exercised, there will be further dilution to investors in this offering. Further, if the underwriters exercise their option to purchase additional shares, you will experience additional dilution. See “Dilution” for a more detailed description of the dilution to new investors in the offering.

***A significant portion of our total outstanding shares is restricted from immediate resale but may be sold into the market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is doing well.***

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have 26,666,008 shares of common stock outstanding based on the number of shares outstanding as of September 30, 2021 after giving effect to the automatic conversion of our convertible preferred stock. This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates. The remaining 19,313,008 shares are currently restricted as a result of securities laws or lock-up agreements but will become eligible to be sold at various times after the offering as described in the section of this prospectus titled “Shares Eligible for Future Sale.” Morgan Stanley & Co. LLC and Cowen and Company, LLC, in their sole discretion, may release some or all of the shares of common stock subject to lock-up agreements at any time and without notice, which would allow for earlier sales of shares in the public market.

In addition, promptly following the closing of this offering, we intend to file one or more registration statements on Form S-8 under the Securities Act of 1933, as amended, or the Securities Act, registering the issuance of approximately 6,903,021 shares of common stock subject to options or other equity awards issued or reserved for future issuance under our equity incentive plans. Shares registered under these registration statements on Form S-8 will be available for sale in the public market subject to vesting arrangements and exercise of options, the lock-up agreements described above and the restrictions of Rule 144 in the case of our affiliates.

Moreover, beginning 180 days after the completion of this offering, holders of an aggregate of 18,450,878 shares of our common stock will have rights to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described in the “Underwriting” section of this prospectus.

***We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.***

We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any determination to pay dividends in the future will be at the sole discretion of our board of directors. In addition, the terms of any future debt agreements may preclude us from paying dividends. Any return to stockholders will therefore be limited in the foreseeable future to the appreciation of their stock.

***We are an “emerging growth company” and a “smaller reporting company” and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.***

We are an “emerging growth company,” or EGC, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We may remain an EGC until December 31, 2025, although if the market value of our common stock that is held by non-affiliates exceeds \$700.0 million as of any June 30 before that time or if we have annual gross revenues of \$1.07 billion or more in any fiscal year, we would cease to be an EGC as of December 31 of the applicable year. We also would cease to be an EGC if we issue more than \$1.0 billion of non-convertible debt over a three-year period. For so long as we remain an EGC, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not EGCs. These exemptions include:

- being permitted to provide only two years of audited financial statements in this prospectus, in addition to any required unaudited interim financial statements, with correspondingly reduced “Management’s Discussion and Analysis of financial Condition and Results of Operations” disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

Even after we no longer qualify as an emerging growth company, we may continue to qualify as a smaller reporting company, which would allow us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation. In addition, if we are a smaller reporting company with less than \$100 million in annual revenue, we would not be required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404.

We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, the JOBS Act permits an EGC to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected not to “opt out” of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we can adopt the new or revised standard at the time private companies adopt the new or revised standard and

may do so until such time that we either (1) irrevocably elect to “opt out” of such extended transition period or (2) no longer qualify as an EGC or a smaller reporting company. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

***We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.***

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, Nasdaq listing requirements, and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs, particularly as we hire additional financial and accounting employees to meet public company internal control and financial reporting requirements and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, and we might be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified members of our board of directors.

We are evaluating these rules and regulations and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management’s time and attention from revenue-generating activities to compliance activities. If notwithstanding our efforts to comply with new laws, regulations and standards, we fail to comply, regulatory authorities may initiate legal proceedings against us and our business may be materially adversely effected.

Pursuant to Section 404, in our second annual report due to be filed with the Securities and Exchange Commission, or SEC, after becoming a public company, we will be required to furnish a report by our management on our internal control over financial reporting. However, while we remain an EGC or a smaller reporting company with less than \$100 million in annual revenue, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, including through hiring additional financial and accounting personnel, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses in our internal control over financial reporting, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

***If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.***

Effective internal control over financial reporting is necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, is designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404, or any subsequent testing by our independent registered public accounting firm, may reveal

deficiencies in our internal control over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also subject us to regulatory scrutiny and sanctions, impair our ability to raise revenue and cause investors to lose confidence in our reported financial information, which could harm our business and have a negative effect on the trading price of our common stock and adversely affect our results of operations and financial condition.

We will be required to disclose changes made in our internal controls and procedures on a quarterly basis and our management will be required to assess the effectiveness of these controls annually. However, for as long as we are an EGC or a smaller reporting company with less than \$100 million in annual revenue, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404. We could be an emerging growth company for up to five years. An independent assessment of the effectiveness of our internal control over financial reporting could detect problems that our management's assessment might not. Undetected material weaknesses in our internal control over financial reporting could lead to financial statement restatements and require us to incur the expense of remediation, which could have a negative effect on the trading price of our common stock and adversely affect our results of operations and financial condition.

***Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.***

Upon completion of this offering, we will become subject to certain reporting requirements of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal control over financial reporting, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

***Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition.***

Changes in tax law may adversely affect our business or financial condition. The Tax Act, enacted on December 22, 2017, as amended by the CARES Act, enacted on March 27, 2020, contained significant changes to corporate taxation, including a reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, the limitation of the tax deduction for net interest expense to 30% of adjusted taxable income (except for certain small businesses), the limitation of the deduction for NOLs arising in taxable years beginning after December 31, 2017 to 80% of current-year taxable income (though such NOLs may be carried forward indefinitely) and elimination of the carryback for NOLs arising in taxable years beginning after December 31, 2020, the imposition of a one-time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, the elimination of U.S. tax on foreign earnings (subject to certain important exceptions), the allowance of immediate deductions for certain new investments instead of deductions for depreciation expense over time, and the modification or repeal of many business deductions and credits. In addition to the CARES Act, as part of Congress's response to the COVID-19 pandemic, additional legislation has been enacted in 2020 and 2021 containing tax provisions. Regulatory guidance under the Tax Act, CARES Act, and such additional legislation is and continues to be forthcoming. Such guidance could ultimately increase or lessen the impact of these laws on our business and financial condition. Congress may enact additional legislation in connection with the COVID-19 pandemic, and as a result of changes in the U.S. presidential administration and control of the U.S. Senate, additional tax legislation may also be enacted, which could have an impact on our company. In addition, it is uncertain if and to what extent various states will conform to the Tax Act, the CARES Act, and additional tax legislation.

***Provisions in our corporate charter documents and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current directors and members of management.***

Provisions in our restated certificate of incorporation and our amended and restated bylaws that will become effective upon the closing of this offering may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- establish a classified board of directors such that only one of three classes of directors is elected each year;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from our board of directors;
- establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a “poison pill” that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least two-thirds of the votes that all our stockholders would be entitled to cast to amend or repeal specified provisions of our certificate of incorporation or bylaws that will become effective upon the closing of this offering.

In addition, these provisions would apply even if we were to receive an offer that some stockholders may consider beneficial. Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, or the DGCL, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

***Our restated certificate of incorporation that will become effective upon the closing of this offering designates the Court of Chancery of the State of Delaware and the federal district courts of the United States of America as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us or our directors, officers and employees and increase the costs to our stockholders of bringing such claims.***

Our restated certificate of incorporation that will become effective upon the closing of this offering provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or stockholders to our company or our stockholders;

- any action asserting a claim arising pursuant to any provision of the DGCL or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; or
- any action asserting a claim arising pursuant to any provision of our certificate of incorporation or bylaws (in each case, as they may be amended from time to time) or governed by the internal affairs doctrine.

These choice of forum provisions will not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions, and investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our restated certificate of incorporation that will become effective upon the closing of this offering provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any claims arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These exclusive forum provisions may limit the ability of our stockholders to bring a claim in a judicial forum that such stockholders find favorable for disputes with us or our directors, officers or employees, and increase the costs to such stockholders of bringing such a claim, either of which may discourage such lawsuits against us and our directors, officers and employees. If a court were to find the either exclusive forum provision contained in our restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving such action in other jurisdictions, all of which could materially adversely affect our business, financial condition and operating results.

**CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This prospectus contains statements that constitute forward-looking statements and therefore involve substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “aim,” “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “would,” or the negative of these words or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

Forward-looking statements appear in a number of places in this prospectus and include, but are not limited to, statements regarding our intent, belief or current expectations. Forward-looking statements are based on our management’s beliefs and assumptions and on information currently available to our management. Such statements are subject to risks and uncertainties, and actual results may differ materially from those expressed or implied in the forward-looking statements due to various factors, including, but not limited to, those identified under the section entitled “Risk Factors” in this prospectus.

The forward-looking statements in this prospectus include, among other things, statements about:

- the initiation, timing, progress and results of our research and development programs and preclinical studies and clinical trials;
- the impact of the COVID-19 pandemic and our response to the pandemic;
- our plans to develop and, if approved, subsequently commercialize any product candidates we may develop;
- the timing of and our ability to submit applications for, and obtain and maintain regulatory approvals for our product candidates;
- our estimates regarding expenses, future revenue, capital requirements and need for additional financing;
- our expectations regarding our ability to fund our operating expenses, debt repayment obligations and capital expenditure requirements with our cash and cash equivalents and anticipated net proceeds from this offering, as well as our estimates regarding the time period through which we expect to have cash available to fund our operations;
- the potential advantages of our current and future product candidates;
- the rate and degree of market acceptance of our products, if approved;
- our estimates regarding the addressable patient population and potential market opportunity for our current and future product candidates;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates;
- our ability to identify additional products, product candidates or technologies with significant commercial potential that are consistent with our commercial objectives;
- our expectations related to the use of the anticipated net proceeds from this offering;
- the impact of government laws and regulations;
- our competitive position and expectations regarding developments and projections relating to our current or future competitors and any competing therapies that are or become available;
- developments relating to our competitors and our industry;
- our ability to establish and maintain collaborations or obtain additional funding; and

- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly in the “Risk Factors” section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Moreover, we operate in a competitive and rapidly changing environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, collaborations, joint ventures or investments we may make or enter into.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements contained in this prospectus are made as of the date of this prospectus, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.



**MARKET AND INDUSTRY DATA**

This prospectus includes statistical and other industry and market data that we obtained from independent industry publications and research, surveys and studies conducted by independent third parties as well as our own estimates of the prevalence of certain diseases and conditions. The market data used in this prospectus involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. Our estimates of the patient population with the potential to benefit from treatment with any product candidates we may develop include several key assumptions based on our industry knowledge, industry publications, third-party research and other surveys, which may be based on a small sample size and may fail to accurately reflect the addressable patient population. While we believe that our internal assumptions and estimates are reasonable, no independent source has verified such assumptions or estimates.

## USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of 7,353,000 shares of our common stock in this offering will be approximately \$112.1 million, assuming an initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their option to purchase 1,102,950 additional shares of our common stock in full, we estimate that the net proceeds from this offering will be approximately \$129.5 million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

A \$1.00 increase (decrease) in the assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by approximately \$6.8 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by approximately \$15.8 million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

As of June 30, 2021, we had cash and cash equivalents of \$120.3 million. We currently estimate that we will use the net proceeds from this offering, together with our existing cash and cash equivalents, as follows:

- approximately \$30 to \$35 million to advance the development of XTX202 through Phase 1 dose escalation and Phase 2 efficacy cohorts of our planned Phase 1/2 trial in patients with solid tumors;
- approximately \$20 to \$25 million to advance the development of XTX301 through investigational new drug application, or IND, enabling studies, submission of an IND to the U.S. Food and Drug Administration, or FDA, and into initial Phase 1 development;
- approximately \$10 to \$15 million to advance the development of XTX101 through Phase 1 dose escalation and to initiate activities for Phase 2 development; and
- the remainder to advance additional tumor-selective cytokine programs and for working capital and other general corporate purposes.

We may use a portion of the net proceeds from this offering to in-license or acquire businesses, technologies, intellectual property or other assets that we believe are complementary to our own, although we currently have no agreements, commitments or understandings with respect to any such transaction.

Our expected use of net proceeds from this offering and our existing cash and cash equivalents represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. As a result, we cannot predict with any certainty our use of the net proceeds from this offering or the amounts that we will actually spend on each area of use set forth above. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including results from our research and development efforts, the timing and success of our preclinical studies and clinical trials and the timing of and outcome of regulatory submissions, as well as any collaborations that we may enter into with third parties for our product candidates and any unforeseen cash needs.

Based on our current plans, we estimate that the anticipated net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements into 2024. In particular, we expect that the anticipated net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to advance the development of XTX202 through Phase 1 dose escalation and Phase 2 efficacy cohorts of our planned Phase 1/2 trial in patients with solid tumors; advance the development of XTX301 through investigational new drug application, or IND, enabling studies, the submission of an IND to the FDA and into initial Phase 1 development; advance the development of XTX101 through Phase 1 dose escalation and to initiate activities for Phase 2 development; and advance additional tumor-selective cytokine programs. However, we do not expect these funds will be sufficient to complete the clinical development of, or commercialize, any of our product candidates or programs. We have based our estimates on assumptions that may prove to be wrong. We could use our available capital resources sooner than we currently expect, in which case we would need to obtain additional funding, which may not be available to use on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy.

Our management will retain broad discretion over the allocation of the net proceeds from this offering. Pending our use of the net proceeds from this offering, we may invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

**DIVIDEND POLICY**

We have never declared or paid cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to fund the development and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. In addition, our loan and security agreement with Pacific Western Bank contains restrictive covenants that prohibit us from paying dividends on our common stock, and future debt securities or other financing arrangements could contain similar or more restrictive negative covenants. Any future determination to declare and pay dividends will be made at the discretion of our board of directors and will depend on then-existing conditions, including our results of operations, financial condition, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

**CAPITALIZATION**

The following table sets forth our cash and cash equivalents and our total capitalization as of June 30, 2021:

- on an actual basis;
- on a pro forma basis to give effect to (i) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 18,398,248 shares of our common stock upon the closing of this offering, (ii) the automatic conversion of the outstanding warrant to purchase shares of Series A convertible preferred stock into a warrant to purchase shares of common stock and the resulting reclassification of the warrant liability to additional paid-in capital, (iii) the vesting of performance-based stock option awards with vesting conditions that are contingent upon the closing of this offering and the resulting recognition of equity-based compensation expense, (iv) the increase in other expense related to contingent payments payable upon the closing of this offering, excluding any impact from the September 2021 amendment to our loan and security agreement with Pacific Western Bank, and the reclassification of such payables to current liabilities, and (v) the filing and effectiveness of our restated certificate of incorporation in connection with the closing of this offering; and
- on a pro forma as adjusted basis to give further effect to our issuance and sale of 7,353,000 shares of our common stock in this offering at an assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma and pro forma as adjusted information below is illustrative only, and our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read the information in this table together with our consolidated financial statements and the related notes appearing elsewhere in this prospectus and the “Selected Consolidated Financial Data” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” sections of this prospectus.

	As of June 30, 2021		
	Actual	Pro Forma	Pro Forma As Adjusted
	(in thousands, except share and per share data)		
Cash and cash equivalents	\$ 120,299	\$ 120,299	\$ 232,349
Notes payable, current and noncurrent	\$ 9,481	\$ 9,481	\$ 9,481
Convertible preferred stock (Series A, Series A-1, Series B and Series C), \$0.0001 par value per share; 174,808,481 shares authorized, 174,783,481 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	222,888	—	—
Stockholders' equity (deficit)			
Preferred stock, \$0.0001 par value: no shares authorized, issued or outstanding, actual; 5,000,000 shares authorized, no shares issued or outstanding, pro forma and pro forma as adjusted	—	—	—
Common stock, \$0.0001 par value: 220,400,000 shares authorized, 918,429 shares issued and 750,101 shares outstanding, actual; 200,000,000 shares authorized, 19,316,677 shares issued and 19,148,349 shares outstanding, pro forma; 200,000,000 shares authorized, 26,669,677 shares issued and 26,501,349 shares outstanding, pro forma as adjusted	—	2	3
Additional paid-in capital	3,625	226,817	338,866
Accumulated deficit	(124,934)	(125,370)	(125,370)
Total stockholders' equity (deficit)	(121,309)	101,449	213,499
Total capitalization	\$ 111,060	\$ 110,930	\$ 222,980

A \$1.00 increase (decrease) in the assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by \$6.8 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by \$15.8 million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The table above is based on 918,429 shares of our common stock outstanding as of June 30, 2021, which includes 168,328 shares of unvested restricted common stock subject to forfeiture, and excludes:

- 3,275,172 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2021 under our 2020 Stock Incentive Plan, as amended, or the 2020 Plan, at a weighted average exercise price of \$6.39 per share;
- an additional 408,777 shares of common stock issuable upon the exercise of stock options granted after June 30, 2021, at an exercise price of \$11.69 per share;
- 541,483 shares of common stock available for future issuance as of June 30, 2021 under our 2020 Plan (which does not account for stock options to purchase an aggregate of 408,777 shares of common stock, at an exercise price of \$11.69 per share, granted after June 30, 2021); and

- 2,654,828 and 292,031 additional shares of our common stock that will become available for future issuance under our 2021 Stock Incentive Plan (of which our board of directors has granted options to purchase an aggregate of 498,988 shares of common stock to certain of our executive officers and non-employee directors effective upon the commencement of trading of our common stock on the Nasdaq Stock Market with an exercise price per share equal to the price at which shares of common stock are to be sold to the public in this offering) and our 2021 Employee Stock Purchase Plan, respectively, each of which will become effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under these plans.

## DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value (deficit) as of June 30, 2021 was \$(123.6) million, or \$(134.60) per share of our common stock. Our historical net tangible book value (deficit) is the amount of our total tangible assets less our total liabilities and the carrying value of our convertible preferred stock, which is not included within stockholders' equity (deficit). Historical net tangible book value (deficit) per share represents historical net tangible book value (deficit) divided by the 918,429 shares of our common stock issued and outstanding as of June 30, 2021, which includes 168,328 shares of unvested restricted common stock subject to forfeiture.

Our pro forma net tangible book value (deficit) as of June 30, 2021 was \$99.1 million, or \$5.13 per share of our common stock. Pro forma net tangible book value represents the amount of our total tangible assets less our total liabilities, and gives effect to (i) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 18,398,248 shares of our common stock upon the closing of this offering, (ii) the automatic conversion of the outstanding warrant to purchase shares of Series A convertible preferred stock into a warrant to purchase shares of common stock and the resulting reclassification of the warrant liability to additional paid-in capital, (iii) the vesting of performance-based stock option awards with vesting conditions that are contingent upon the closing of this offering and the resulting recognition of equity-based compensation expense, and (iv) the increase in other expense related to contingent payments payable upon the closing of this offering and the reclassification of such payables to current liabilities, excluding any impact from the September 2021 amendment to our loan and security agreement with Pacific Western Bank. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares outstanding as of June 30, 2021, after giving effect to the pro forma adjustments described above.

After giving further effect to our issuance and sale of 7,353,000 shares of our common stock in this offering at an assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of June 30, 2021 would have been \$211.2 million, or \$7.92 per share. This represents an immediate increase in pro forma as adjusted net tangible book value per share of \$2.79 to existing stockholders and an immediate dilution of \$9.08 in pro forma as adjusted net tangible book value per share to new investors purchasing common stock in this offering. Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the assumed initial public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share	\$ 17.00
Historical net tangible book value (deficit) per share as of June 30, 2021	\$ (134.60)
Increase per share attributable to the pro forma adjustments described above	139.73
Pro forma net tangible book value (deficit) per share as of June 30, 2021	<u>5.13</u>
Increase in pro forma as adjusted net tangible book value per share attributable to new investors purchasing shares of common stock in this offering	<u>2.79</u>
Pro forma as adjusted net tangible book value per share immediately after this offering	7.92
Dilution per share to new investors purchasing shares of common stock in this offering	<u>\$ 9.08</u>

The dilution information discussed above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. A \$1.00 increase (decrease) in the assumed



initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our pro forma as adjusted net tangible book value per share after this offering by \$0.25 and dilution per share to new investors purchasing shares of common stock in this offering by \$0.75, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase our pro forma as adjusted net tangible book value per share after this offering by \$0.28 and decrease the dilution per share to new investors purchasing shares of common stock in this offering by \$0.28, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A decrease of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease our pro forma as adjusted net tangible book value per share after this offering by \$0.31 and increase the dilution per share to new investors purchasing shares of common stock in this offering by \$0.31, assuming no change in the assumed initial public offering price and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase additional shares in full, our pro forma as adjusted net tangible book value per share after this offering would be \$8.23, representing an immediate increase in pro forma as adjusted net tangible book value per share of \$0.31 to existing stockholders and immediate dilution in pro forma as adjusted net tangible book value per share of \$0.31 to new investors purchasing shares of common stock in this offering, assuming an initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The following table summarizes, as of June 30, 2021, on the pro forma as adjusted basis described above, the total number of shares of common stock purchased from us on an as converted to common stock basis, the total consideration paid or to be paid and the average price per share paid or to be paid by existing stockholders and by new investors in this offering at an assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. As the table shows, new investors purchasing shares of common stock in this offering will pay an average price per share substantially higher than our existing stockholders paid.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percentage	
Existing stockholders	19,316,677	72.4%	\$225,689	64.4%	\$ 11.68
New investors	7,353,000	27.6%	125,001	35.6%	\$ 17.00
Total	26,669,677	100%	\$350,690	100%	

A \$1.00 increase (decrease) in the assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the total consideration paid by new investors by \$7.4 million and, in the case of an increase, would increase the percentage of total consideration paid by new investors by 1.3 percentage points and, in the case of a decrease, would decrease the percentage of total consideration paid by new investors by 1.4 percentage points, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. An increase (decrease) of 1,000,000 shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the total consideration paid by new investors by \$17.0 million and, in the case of an increase, would increase the percentage of total consideration paid by new investors by 3.0 percentage points and, in the case of a decrease, would decrease the percentage of total consideration paid by new investors by 3.3 percentage points, assuming no change in the assumed initial public offering price.

The table above assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters exercise their option to purchase additional shares in full, the number of shares of our common stock held by existing stockholders would be reduced to 69.6% of the total number of shares of our common stock outstanding after this offering, and the number of shares of common stock held by new

investors purchasing shares of common stock in this offering would be increased to 30.4% of the total number of shares of our common stock outstanding after this offering.

The tables and discussion above are based on the number of shares of our common stock outstanding as of June 30, 2021, which include 168,328 shares of unvested restricted common stock subject to forfeiture and exclude:

- 3,275,172 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2021 under our 2020 Plan at a weighted average exercise price of \$6.39 per share;
- an additional 408,777 shares of common stock issuable upon the exercise of stock options granted after June 30, 2021, at an exercise price of \$11.69 per share;
- 541,483 shares of common stock available for future issuance as of June 30, 2021 under our 2020 Plan (which does not account for stock options to purchase an aggregate of 408,777 shares of common stock, at an exercise price of \$11.69 per share, granted after June 30, 2021); and
- 2,654,828 and 292,031 additional shares of our common stock that will become available for future issuance under our 2021 Stock Incentive Plan (of which our board of directors has granted options to purchase an aggregate of 498,988 shares of common stock to certain of our executive officers and non-employee directors effective upon the commencement of trading of our common stock on the Nasdaq Stock Market with an exercise price per share equal to the price at which shares of common stock are to be sold to the public in this offering) and our 2021 Employee Stock Purchase Plan, respectively, each of which will become effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of common stock reserved for future issuance under these plans.

To the extent stock options are issued and exercised under our equity incentive plans, or we issue additional shares of common stock in the future, there will be further dilution to investors purchasing shares of common stock in this offering. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

## SELECTED CONSOLIDATED FINANCIAL DATA

You should read the following selected consolidated financial data together with our consolidated financial statements and the related notes appearing elsewhere in this prospectus and the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section of this prospectus. We have derived the consolidated statement of operations data for the years ended December 31, 2019 and 2020 and the consolidated balance sheet data as of December 31, 2019 and 2020 from our audited consolidated financial statements appearing elsewhere in this prospectus. The consolidated statement of operations data for the six months ended June 30, 2020 and 2021 and the consolidated balance sheet data as of June 30, 2021 have been derived from our unaudited condensed consolidated financial statements appearing elsewhere in this prospectus and have been prepared on the same basis as the audited consolidated financial statements. In the opinion of management, the unaudited data reflects all adjustments, consisting only of normal, recurring adjustments, necessary for a fair statement of the financial information in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and our interim results are not necessarily indicative of results to be expected for a full fiscal year or any other interim period.

	Year Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
(in thousands, except unit and share and per unit and per share data)				
<b>Consolidated Statement of Operations Data:</b>				
Operating expenses:				
Research and development	\$ 14,256	\$ 43,910	\$ 14,783	\$ 29,366
General and administrative	4,771	10,653	4,562	10,161
Total operating expenses	19,027	54,563	19,345	39,527
Loss from operations	(19,027)	(54,563)	(19,345)	(39,527)
Gain on tranche rights	1,739	—	—	—
Other expense, net	(23)	(656)	(283)	(321)
Net loss	\$ (17,311)	\$ (55,219)	\$ (19,628)	\$ (39,848)
Net loss per unit, basic and diluted <sup>(1)</sup>	\$ (42.29)			
Net loss per share, basic and diluted <sup>(1)</sup>		\$ (105.42)	\$ (47.84)	\$ (55.16)
Weighted-average common units outstanding, basic and diluted <sup>(1)</sup>	409,303			
Weighted average common shares outstanding, basic and diluted <sup>(1)</sup>		523,786	410,310	722,424
Pro forma net loss per share, basic and diluted (unaudited) <sup>(2)</sup>		\$ (7.47)		\$ (2.41)
Pro forma weighted average number of common shares outstanding used in net loss per share, basic and diluted (unaudited) <sup>(2)</sup>		7,429,110		16,577,420

(1) See Note 15 to our consolidated financial statements and Note 10 to our unaudited interim condensed consolidated financial statements appearing elsewhere in this prospectus for details on the calculation of basic and diluted net loss per share.

(2) The unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2020 and six months ended June 30, 2021 were computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the automatic conversion of all outstanding shares of convertible preferred stock into shares of common stock on the later of January 1, 2020 or the date the equity instruments were issued. The unaudited pro forma net loss used in the calculation of unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2020 and six months ended June 30, 2021 include (i) adjustments to the equity-based compensation expense related to certain stock option awards with vesting conditions that are contingent upon the closing of this offering, in the amount of approximately \$61 and \$224 for each period, respectively, (ii) adjustments to other expense related to historical fair value adjustments recorded to our warrant liability which is replaced by an equity warrant upon the closing of this offering, and (iii) adjustments to other expense to record additional expense related to contingent payments payable upon the closing of this offering, excluding any impact from the September 2021 amendment to our

loan and security agreement with Pacific Western Bank. The unaudited pro forma basic and diluted net loss per share does not include the shares sold in or related proceeds received from this offering.

	As of December 31, 2020	As of June 30, 2021
	(in thousands)	
<b>Consolidated Balance Sheet Data:</b>		
Cash and cash equivalents	\$ 19,238	\$ 120,299
Working capital <sup>(1)</sup>	(1,565)	103,281
Total assets	36,317	140,024
Notes payable, current and noncurrent	9,745	9,481
Convertible preferred stock	78,002	222,888
Total stockholders' deficit	(83,287)	(121,309)

- (1) We define working capital as current assets less current liabilities. See our consolidated financial statements and related notes appearing elsewhere in this prospectus for further details regarding our current assets and current liabilities.

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*You should read the following discussion and analysis of our financial condition and results of operations together with the "Selected Consolidated Financial Data" section of this prospectus and our consolidated financial statements and related notes appearing elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. Please also see the section entitled "Cautionary Note Regarding Forward-Looking Statements."*

### Overview

We are a biotechnology company focused on harnessing the immune system to achieve deep and durable clinical responses to improve the lives of patients with cancer. We have built our geographically precise solutions, or GPS, platform to rapidly engineer novel molecules, including cytokines and other biologics, that are designed to optimize their therapeutic index by geographically localizing their activity inside tumors. Current immuno-oncology therapies have curative potential for patients with cancer; however, their potential is significantly curtailed by systemic toxicity that results from activity of the therapeutic molecule outside the tumor microenvironment, or TME. Our molecules are engineered to localize activity within the TME with minimal systemic effects, resulting in the potential to achieve enhanced anti-tumor activity. We are advancing a number of geographically precise, or tumor-selective, agents through various stages of development. Our most advanced product candidates are XTX101, an anti-cytotoxic T-lymphocyte-associated protein 4, or anti-CTLA-4, monoclonal antibody, or mAb, and XTX202, an interleukin 2 therapy. In June 2021, the U.S. Food and Drug Administration, or FDA, cleared our investigational new drug application, or IND, for XTX101, and we recently initiated our Phase 1/2 trial to evaluate XTX101 in patients with advanced solid tumors. In addition, in October 2021, the FDA cleared our IND for XTX202. We anticipate initiating a Phase 1/2 trial to evaluate XTX202 in multiple solid tumor types in the first quarter of 2022. We are also advancing our tumor-selective IL-12 product candidate, XTX301, with the goal of submitting an IND in the second half of 2022, and we are currently pursuing preclinical studies for our tumor-selective IL-15 product candidate, XTX401. We also plan to continue to leverage our GPS platform to expand our pipeline and seek to develop additional product candidates, including product candidates with a range of tumor targeting approaches.

Since inception, we have devoted substantially all of our financial resources and efforts to performing research and development activities. To date, we have financed our operations primarily from proceeds raised through private placements of preferred units, which were exchanged for shares of convertible preferred stock, private placements of convertible preferred stock and a debt financing. Through June 30, 2021, we have received an aggregate of \$234.5 million, net of issuance costs, from such transactions, including \$224.5 million in net proceeds from the sale and issuance of preferred units and convertible preferred stock and \$10.0 million in net proceeds from the debt financing.

We have not generated any revenue from product sales, and do not expect to generate any revenue from product sales for at least the next several years, if at all. All of our programs are in early clinical or preclinical development. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our product candidates, if approved. Since inception, we have incurred significant operating losses, including net losses of \$17.3 million and \$55.2 million for the years ended December 31, 2019 and 2020, respectively, and a net loss of \$39.8 million for the six months ended June 30, 2021. As of June 30, 2021, we had an accumulated deficit of \$124.9 million. We expect to incur significant expenses and operating losses for the foreseeable future. We anticipate that our expenses will continue to increase significantly in connection with our ongoing activities, particularly as we:

- continue to advance our current research programs and conduct additional research programs;
- advance our current product candidates and any future product candidates we may develop into preclinical and clinical development;
- seek marketing approvals for any product candidates that successfully complete clinical trials;

- obtain, expand, maintain, defend and enforce our intellectual property;
- hire additional research, clinical, regulatory, quality, manufacturing and general and administrative personnel;
- establish a commercial and distribution infrastructure to commercialize any products for which we may obtain marketing approval;
- continue to discover, validate and develop additional product candidates;
- continue to manufacture increasing quantities of our current or future product candidates for use in preclinical studies, clinical trials and for any potential commercialization;
- acquire or in-license other product candidates, technologies or intellectual property; and
- incur additional costs associated with current and future research, development and commercialization efforts and operations as a public company.

As a result, we will need substantial additional funding to support our continuing operations and pursue our strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of equity offerings, debt financings and other sources of funding, such as collaborations, licensing arrangements or other strategic transactions. We may be unable to raise additional funds or enter into such other agreements or arrangements when needed on acceptable terms, or at all. Our failure to raise capital or enter into such agreements as and when needed could have a material adverse effect on our business, results of operations and financial condition.

Because of the numerous risks and uncertainties associated with product development, we are unable to predict the timing or amount of increased expenses or when or if we will be able to achieve profitability. Even if we are able to generate revenue from product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of June 30, 2021, we had cash and cash equivalents of \$120.3 million. We believe that our existing cash and cash equivalents, together with the anticipated net proceeds from this offering, will enable us to fund our operating expenses, debt repayment obligations and capital expenditure requirements into 2024.

#### **Impact of COVID-19 on Our Business**

The worldwide COVID-19 pandemic has affected and may affect in the future our ability to initiate and complete preclinical studies, delay the initiation and completion of our planned clinical trials, disrupt regulatory activities or have other adverse effects on our business, results of operations, financial condition and prospects. In addition, the pandemic has caused substantial disruption in the financial markets and may adversely impact economies worldwide, both of which could adversely affect our business, operations and ability to raise funds to support our operations.

We are following, and plan to continue to follow, recommendations from federal, state and local governments regarding workplace policies, practices and procedures. In response to the direction from state and local governmental authorities, we have restricted access to our facility to those individuals who must perform critical research, translational medicine, laboratory and other support activities that must be completed on site, limited the number of such people that can be present at our facility at any one time and required that most of our employees work remotely. In addition, we and the third-party manufacturers, contract research organizations, or CROs, and academic collaborators that we engage have faced in the past and may face in the future disruptions that could affect our ability to initiate and complete preclinical studies or clinical trials, including disruptions in procuring items that are essential for our research and development activities, such as, for example, raw materials used in the manufacture of our product candidates, laboratory supplies for our preclinical studies and clinical trials, or animals that are used for preclinical testing, in each case, for which there may be shortages because of ongoing efforts to address the COVID-19 pandemic.

We cannot be certain what the overall impact of the COVID-19 pandemic will be on our business, and it has the potential to adversely affect our business, financial condition, results of operations and prospects.

## Financial Operations Overview

### Revenue

We have not generated any revenue since inception and do not expect to generate any revenue from the sale of products for at least the next several years, if at all. If our development efforts for our current or future product candidates are successful and result in regulatory approval or if we enter into collaboration or license agreements with third parties, we may generate revenue in the future from product sales or payments from third-party collaborators or licensors.

### Operating Expenses

#### Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our discovery efforts, research activities and development and testing of our programs and product candidates. These expenses include:

- personnel-related expenses, including salaries, bonuses, benefits and equity-based compensation expense for employees engaged in research and development functions;
- costs incurred with third-party contract development and manufacturing organizations, or CDMOs, to acquire, develop and manufacture materials for both preclinical studies and planned clinical studies;
- costs of funding research performed by third parties that conduct research and development and preclinical activities on our behalf;
- costs incurred with third-party clinical research organizations, or CROs, and other third parties in connection with the conduct of our current or future clinical trials;
- costs of sponsored research agreements and outside consultants, including their fees, equity-based compensation and related expenses;
- costs incurred to maintain compliance with regulatory requirements;
- fees for maintaining license and other amounts due under our third-party licensing agreements;
- expenses incurred for the procurement of materials, laboratory supplies and non-capital equipment used in the research and development process; and
- depreciation, amortization and other direct and allocated expenses, including rent, insurance, maintenance of facilities and other operating costs, incurred as a result of our research and development activities.

We expense research and development costs as incurred. We recognize external development costs based on an evaluation of the progress to completion of specific deliverables using information provided to us by our vendors. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our financial statements as prepaid expenses or accrued research and development expenses. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are capitalized as assets, even when there is no alternative future use for the research and development. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

We use our personnel and infrastructure resources for our discovery efforts, including the advancement of our platform, developing programs and product candidates and managing external research efforts. A significant portion of our research and development costs have been, and will continue to be, external costs. We track these external costs, such as fees paid to CDMOs, CROs, preclinical study vendors and other third parties in connection with our manufacturing and manufacturing process development, clinical trials, preclinical studies and other research activities by program. Due to the number of ongoing programs and our ability to use resources across several projects, personnel-related expenses and indirect or shared operating costs incurred for our research and development programs are not recorded or maintained on a program-by-program basis.

The following table reflects our research and development expense, including direct program-specific expense summarized by program, personnel-related expenses and indirect or shared operating costs recognized during each period presented (in thousands):

	Year Ended December 31,		Six Months Ended June 30,	
	2019	2020	2020	2021
XTX202	\$ 918	\$ 14,866	\$ 1,188	\$ 12,262
XTX101	2,965	11,554	5,887	3,913
Other early programs and indirect research and development	6,407	9,483	4,285	6,162
Personnel-related (including equity-based compensation)	3,966	8,007	3,423	7,029
<b>Total research and development expenses</b>	<b>\$ 14,256</b>	<b>\$ 43,910</b>	<b>\$ 14,783</b>	<b>\$ 29,366</b>

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase for the foreseeable future as we advance our programs and product candidates into and through clinical development, and as we continue to develop additional product candidates. We also expect our discovery research efforts and our related personnel costs will increase and, as a result, we expect our research and development expenses, including costs associated with equity-based compensation, will increase above historical levels. In addition, we may incur additional expenses related to milestone and royalty payments payable to third parties with whom we have entered into, or may enter into, license, acquisition and option agreements to acquire the rights to future products and product candidates.

At this time, we cannot reasonably estimate or know the nature, timing and projected costs of the efforts that will be necessary to complete the development of, and obtain regulatory approval for, any of our product candidates or programs. This is due to the numerous risks and uncertainties associated with drug development, including the uncertainty of:

- the scope, timing, costs and progress of preclinical and clinical development activities;
- the number and scope of preclinical and clinical programs we decide to pursue;
- our ability to maintain our current research and development programs and to establish new ones
- our ability to establish an appropriate safety profile for our product candidates with IND-enabling studies;
- our ability to hire and retain key research and development personnel;
- the costs associated with the development of any additional product candidates we develop or acquire through collaborations;
- the effects of COVID-19 to our research and development employees, contractors and those who may participate in our planned studies.
- our successful enrollment in and completion of clinical trials;
- our ability to successfully complete clinical trials with safety, potency and purity profiles that are satisfactory to the FDA or any comparable foreign regulatory authority;
- our receipt of regulatory approvals from applicable regulatory authorities;
- our ability to successfully develop, obtain regulatory approval for, and then successfully commercialize, our product candidates;
- our ability to commercialize products, if and when approved, whether alone or in collaboration with others;



- the continued acceptable safety profiles of the product candidates following approval;
- our ability to establish and maintain agreements with third-party manufacturers for clinical supply for our clinical trials and commercial manufacturing, if our product candidates are approved;
- the terms and timing of any collaboration, license or other arrangement, including the terms and timing of any milestone payments thereunder; and
- our ability to obtain and maintain patent, trade secret and other intellectual property protection and regulatory exclusivity for our product candidates if and when approved.

A change in any of these variables with respect to the development of any of our product candidates would significantly change the costs, timing and viability associated with the development of that product candidate. We may never succeed in obtaining regulatory approval for any product candidate we may develop.

#### *General and Administrative Expenses*

General and administrative expenses consist primarily of personnel-related costs, including salaries, benefits and equity-based compensation, for personnel in our executive, finance, legal, business development, human resources and other administrative functions. General and administrative expenses also include legal fees relating to corporate matters; professional fees for accounting, auditing, tax, human resources and administrative consulting services; insurance costs; and facility-related expenses, which include depreciation costs and other allocated expenses for rent, maintenance of facilities, recruiting and other general administrative costs. These costs relate to the operation of the business and are in support of but separate from the research and development function and our individual development programs. Costs to secure and defend our intellectual property are expensed as incurred and are classified as general and administrative expenses.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount and infrastructure to support the expected growth in our research and development activities. We also expect to incur increased expenses associated with being a public company, including increased costs of accounting, audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and Securities and Exchange Commission, or SEC, requirements, director and officer insurance costs and investor and public relations costs. We also expect to incur additional intellectual property-related expenses as we file patent applications to protect intellectual property arising from our research and development activities.

#### *Other Income (Expense), Net*

Other income (expense), net consists primarily of gains or losses associated with changes in the fair value of the tranche rights associated with our Series A-1 preferred units and contingent liabilities associated with the consummation of specified transactions, including an initial public offering, interest expense principally on the note payable under our debt arrangement with Pacific Western Bank, or PacWest, and interest income earned from our cash and cash equivalents. In May 2019, upon the issuance of the final tranche of our Series A-1 preferred units, the tranche right liability was settled and a gain of \$1.7 million was recorded. Therefore, no further gains or losses will be recognized related to the tranche rights.

#### *Income Taxes*

Since our inception, we have not recorded any U.S. federal or state income tax benefits for the net losses we have incurred in each year or for our earned research and development tax credits, due to our uncertainty of realizing a benefit from those items. As of December 31, 2020, we had federal and state net operating loss, or NOL, carryforwards of approximately \$78.0 million and \$69.6 million, respectively, which may be available to offset future taxable income. As of December 31, 2020, federal NOLs of \$73.2 million have an indefinite carryforward period. The remaining \$4.8 million in federal NOL carryforwards and our state NOL carryforward will expire beginning in 2035. As of December 31, 2020, we also had federal and state research and development carryforwards of approximately \$1.5 million and \$0.8 million, respectively, which may be available to offset any future income tax and which will begin to expire in 2037. These loss and credit carryforwards are subject to review and possible adjustment by the appropriate taxing authorities.

Utilization of our NOL carryforwards and research and development credit carryforwards may be subject to a substantial annual limitation due to ownership change limitations that have occurred previously or that could occur in the future in accordance with Section 382 of the Internal Revenue Code of 1986, or Section 382, as well as similar state provisions. These ownership changes may limit the amount of NOL and research and development credit carryforwards that can be utilized annually to offset future taxable income and taxes, respectively. In general, an ownership change as defined by Section 382 results from transactions increasing the ownership of certain stockholders or public groups in the stock of a corporation by more than 50% over a three-year period. Since our formation, we have raised capital through the issuance of units and capital stock on several occasions. These financings could result in a change of control as defined by Section 382. We have not yet completed a detailed study of our inception to date ownership change activity.

In addition, we have not yet conducted a study of our research and development credit carry forwards. Such a study may result in an adjustment to our research and development credit carryforwards; however, until a study is completed and any adjustment is known, no amount is being presented as an uncertain tax position. A full valuation allowance has been provided against our research and development credits, and, if an adjustment is required, this adjustment would be offset by an adjustment to the valuation allowance. Thus, there would be no impact to the balance sheet or statement of operations and comprehensive loss if an adjustment were required.

Income taxes are determined at the applicable tax rates adjusted for non-deductible expenses, research and development tax credits and other permanent differences. Our income tax provision may be significantly affected by changes to our estimates.

### Results of Operations

#### *Comparison of the Six Months Ended June 30, 2020 and 2021*

The following tables summarize our results of operations for the six months ended June 30, 2020 and 2021 (in thousands):

	Six Months Ended June 30,		Change
	2020	2021	
Operating expenses:			
Research and development	\$ 14,783	\$ 29,366	\$ 14,583
General and administrative	4,562	10,161	5,599
Total operating expenses	19,345	39,527	20,182
Loss from operations	(19,345)	(39,527)	(20,182)
Other income (expense), net:			
Other expense, net	(283)	(321)	(38)
Total other expense, net	(283)	(321)	(38)
Net loss	<u>\$ (19,628)</u>	<u>\$ (39,848)</u>	<u>\$ (20,220)</u>

*Research and Development Expenses*

The following tables summarize our research and development expenses for the six months ended June 30, 2020 and 2021 (in thousands):

	Six Months Ended June 30,		Change
	2020	2021	
XTX202	\$ 1,188	\$ 12,262	\$ 11,074
XTX101	5,887	3,913	(1,974)
Other early programs and indirect research and development	4,285	6,162	1,877
Personnel-related (including equity-based compensation)	3,423	7,029	3,606
<b>Total research and development expenses</b>	<b>\$ 14,783</b>	<b>\$ 29,366</b>	<b>\$ 14,583</b>

Research and development expenses increased by \$14.6 million from \$14.8 million for the six months ended June 30, 2020 to \$29.4 million for the six months ended June 30, 2021. The increase in research and development expenses was primarily due to the following:

- \$11.1 million increase in expenses incurred to advance our XTX202 program, primarily resulting from a \$7.9 million increase in manufacturing and a \$2.7 million increase in preclinical development activities;
- \$3.6 million increase in personnel-related costs, including a \$0.4 million increase in equity-based compensation, primarily due to increases in salaries, bonus and benefits associated with increased research and development headcount as well as higher average compensation;
- \$1.9 million increase in other early programs and indirect research and development expenses, primarily driven by an increase in external expenses related to preclinical research and development activities; and
- \$2.0 million decrease in expenses incurred to advance our XTX101 program, driven primarily by a \$2.6 million decrease in manufacturing, partially offset by a \$0.6 million increase in costs associated with clinical development activities.

*General and Administrative Expenses*

General and administrative expenses increased \$5.6 million from \$4.6 million for the six months ended June 30, 2020 to \$10.2 million for the six months ended June 30, 2021. The increase in general and administrative expenses was primarily due to the following:

- \$2.6 million increase in personnel-related costs, including a \$1.1 million increase in equity-based compensation, and a \$1.1 million increase in salaries, bonuses and benefits primarily due to increased general and administrative headcount; and
- \$2.4 million increase in professional fees, driven primarily by an increase in accounting and other professional services related to ongoing business activities.

*Other Income (Expense), Net*

Other income (expense), net, increased by \$38,000 during the six months ended June 30, 2021 compared to the same period in the prior year primarily as a result of increased interest expense during the six months ended June 30, 2021.

**Comparison of the Years Ended December 31, 2019 and 2020**

The following tables summarize our results of operations for the years ended December 31, 2019 and 2020 (in thousands):

	Year Ended December 31,		Change
	2019	2020	
Operating expenses:			
Research and development	\$ 14,256	\$ 43,910	\$ 29,654
General and administrative	4,771	10,653	5,882
Total operating expenses	19,027	54,563	35,536
Loss from operations	(19,027)	(54,563)	(35,536)
Other income (expense), net:			
Gain on tranche rights	1,739	—	(1,739)
Other expense, net	(23)	(656)	(633)
Total other income (expense), net	1,716	(656)	(2,372)
Net loss	\$ (17,311)	\$ (55,219)	\$ (37,908)

**Research and Development Expenses**

The following tables summarize our research and development expenses for the years ended December 31, 2019 and 2020 (in thousands):

	Year Ended December 31,		Change
	2019	2020	
XTX202	\$ 918	\$ 14,866	\$ 13,948
XTX101	2,965	11,554	8,589
Other early programs and indirect research and development	6,407	9,483	3,076
Personnel-related (including equity-based compensation)	3,966	8,007	4,041
Total research and development expenses	\$ 14,256	\$ 43,910	\$ 29,654

Research and development expenses increased by \$29.7 million from \$14.3 million for the year ended December 31, 2019 to \$43.9 million for the year ended December 31, 2020. The increase in research and development expenses was primarily due to the following:

- \$13.9 million increase in expenses incurred to advance our XTX202 program, driven by a \$6.0 million upfront payment under our license agreement with AskGene Pharma, Inc., or AskGene, and approximately \$7.9 million of increases in manufacturing and preclinical development activities;
- \$8.6 million increase in expenses incurred to advance our XTX101 program, driven primarily by increases in manufacturing and preclinical development activities; and
- \$4.0 million increase in personnel-related costs, including a \$0.3 million increase in equity-based compensation, due primarily to increases in salaries, bonuses and benefits associated with higher research and development headcount.

**General and Administrative Expenses**

General and administrative expenses increased by \$5.9 million from \$4.8 million for the year ended December 31, 2019 to \$10.7 million for the year ended December 31, 2020. The increase in general and administrative expenses was primarily due to the following:

- \$2.9 million increase in personnel-related costs, driven primarily by a \$0.9 million increase in equity-based compensation and a \$1.9 million increase in salaries, bonuses and benefits, primarily due to higher general and administrative headcount; and

- \$2.2 million increase in professional fees, driven primarily by an increase in legal, accounting and other services related to ongoing business activities.

#### *Other Income (Expense), Net*

Total other income (expense), net was \$1.7 million of other income for the year ended December 31, 2019 compared to other expense of \$0.7 million for the year ended December 31, 2020, or a change of \$2.4 million. The change was primarily due to a gain associated with fair value adjustments to our liabilities related to our Series A-1 tranche rights during 2019. In addition, interest expense increased by \$0.5 million in 2020 primarily due to a full year of interest expense associated with the note payable compared to a partial year in the previous period.

### **Liquidity and Capital Resources**

#### *Sources of Liquidity*

Since our inception, we have incurred significant operating losses and negative cash flows from operations. We have not yet commercialized any of our product candidates, which are in preclinical development, and we do not expect to generate revenue from sales of any products for several years, if at all. To date, we have financed our operations primarily from proceeds raised through private placements of preferred units, which were exchanged for shares of convertible preferred stock, private placements of convertible preferred stock and a debt financing. Through June 30, 2021, we have received an aggregate of \$234.5 million, net of issuance costs, from such transactions, including \$224.5 million in net proceeds from the sale and issuance of preferred units and convertible preferred stock and \$10.0 million in net proceeds from the debt financing. As of June 30, 2021, we had cash and cash equivalents of \$120.3 million.

#### *Cash Flows*

The following table provides information regarding our cash flows for each period presented (in thousands):

	<b>Year Ended December 31,</b>		<b>Six Months Ended June 30,</b>	
	<b>2019</b>	<b>2020</b>	<b>2020</b>	<b>2021</b>
Net cash provided by (used in):				
Operating activities	\$ (17,843)	\$ (36,091)	\$ (12,925)	\$ (42,870)
Investing activities	(715)	(2,188)	(1,506)	(608)
Financing activities	60,020	10,029	9,969	144,541
Net increase (decrease) in cash, cash equivalents and restricted cash	<u>\$ 41,462</u>	<u>\$ (28,250)</u>	<u>\$ (4,462)</u>	<u>\$ 101,063</u>

#### *Operating Activities*

Our cash flows from operating activities are greatly influenced by our use of cash for operating expenses and working capital requirements to support our business. We have historically experienced negative cash flows from operating activities as we invested in developing our pipeline, platform, drug discovery efforts and related infrastructure. The cash used in operating activities resulted primarily from our net losses adjusted for non-cash charges, which are generally due to equity-based compensation, depreciation and amortization, as well as changes in components of operating assets and liabilities, which are generally due to increased expenses and timing of vendor payments.

During the six months ended June 30, 2021, net cash used in operating activities of \$42.9 million was primarily due to our net loss of \$39.8 million and changes in operating assets and liabilities of \$5.7 million, partially offset by net non-cash expenses of \$2.7 million.

During the six months ended June 30, 2020, net cash used in operating activities of \$12.9 million was primarily due to our net loss of \$19.6 million, partially offset by both changes in operating assets and liabilities of \$5.7 million and net non-cash expenses of \$1.0 million.

During the year ended December 31, 2020, net cash used in operating activities of \$36.1 million was primarily due to our net loss of \$55.2 million, partially offset by both changes in operating assets and liabilities of \$16.6 million and by net non-cash expenses of \$2.5 million.

During the year ended December 31, 2019, net cash used in operating activities of \$17.8 million was primarily due to our net loss of \$17.3 million and by net non-cash expenses and gains of \$1.3 million, partially offset by changes in operating assets and liabilities of \$0.8 million.

#### *Investing Activities*

During the six months ended June 30, 2020 and 2021, net cash used in investing activities of \$1.5 million and \$0.6 million, respectively, was primarily due to purchases of property and equipment.

During the year ended December 31, 2019 and 2020, net cash used in investing activities of \$0.7 million and \$2.2 million, respectively, was primarily due to purchases of property and equipment.

#### *Financing Activities*

During the six months ended June 30, 2021, net cash provided by financing activities of \$144.5 million consisted primarily of proceeds from the sale and issuance of shares of our Series B and Series C convertible preferred stock.

During the six months ended June 30, 2020, net cash provided by financing activities of \$10.0 million consisted primarily of proceeds from the sale and issuance of our Series B preferred units.

During the year ended December 31, 2020, net cash provided by financing activities of \$10.0 million consisted primarily of proceeds from the sale and issuance of our Series B preferred units.

During the year ended December 31, 2019, net cash provided by financing activities of \$60.0 million consisted primarily of \$10.0 million of net proceeds from the sale and issuance of our Series A-1 preferred units, \$40.1 million of net proceeds from the sale and issuance of our Series B preferred units and \$10.0 million in net proceeds from the issuance of a note payable to PacWest.

#### *Loan and Security Agreement*

In November 2019, we entered into a loan and security agreement with PacWest, under which we borrowed \$10.0 million. Borrowings under the loan and security agreement are collateralized by substantially all of our assets, excluding intellectual property. As of June 30, 2021, we had \$9.7 million in outstanding borrowings under the loan and security agreement and interest on the loan balance accrues at a variable annual rate equal to the greater of (i) the prime rate, as defined in the loan and security agreement, plus 0.25% or (ii) 5.00%. Interest-only payments on the loan balance were required to be paid on a monthly basis through May 21, 2021. Subsequent to the interest-only period, we have made equal monthly payments of principal plus interest and are required to do so until the loan matures in November 2023. In September 2021, we entered into an amendment to our loan and security agreement, pursuant to which we borrowed \$10.0 million under a new term loan and used the proceeds of such new term loan to repay the outstanding balance on the prior term loan. In addition, as a result of the amendment, prior to December 31, 2022, we have the ability to request one or more additional term loans in an aggregate principal amount of \$10.0 million. Interest on amounts outstanding accrues at a variable annual rate equal to the greater of (i) the prime rate plus 0.25% or (ii) 4.75%. As a result of the amendment, we are required to make interest-only payments on any outstanding balances through December 31, 2022. Subsequent to the interest-only period, we will be required to make equal monthly payments of principal plus interest until the loan matures on June 30, 2024. In addition, under the loan and security agreement, as amended, we are obligated to pay a one-time fee between \$0.8 million to \$1.0 million to PacWest, depending on the timing and occurrence of specified events, including upon the closing of this offering. As a result of the amendment, we are also obligated to pay PacWest a fee of 1.0% of the aggregate principal amounts then outstanding if any term loans are repaid prior to September 17, 2022. The loan and security agreement, as amended, contains customary representations, warranties and covenants and also includes customary events of default, including payment defaults, breaches of covenants, a change of control and occurrence of a material adverse effect.

### ***Funding Requirements***

We expect our expenses to increase substantially in connection with our ongoing research and development activities, particularly as we advance into planned clinical development of our product candidates and expand the research efforts and preclinical activities associated with our other existing programs and discovery platform. In addition, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company. As a result, we expect to incur substantial operating losses and negative operating cash flows for the foreseeable future.

As of June 30, 2021, we had cash and cash equivalents of \$120.3 million. We believe that our existing cash and cash equivalents, together with the anticipated net proceeds from this offering, will enable us to fund our operating expenses, debt repayment obligations and capital expenditure requirements into 2024. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect.

Because of the numerous risks and uncertainties associated with product development, and because the extent to which we may enter into collaborations with third parties for the development of our product candidates is unknown, we may incorrectly estimate the timing and amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates. Our funding requirements and timing and amount of our operating expenditures will depend on many factors, including, but not limited to:

- the scope, progress, results and costs of research and development for our current and future product candidates, including our current and planned clinical trials for our most advanced product candidates, XTX101 and XTX202, and ongoing preclinical development for our current and future product candidates;
- the scope, prioritization and number of our research and development programs;
- the scope, costs, timing and outcome of regulatory review of our product candidates;
- the costs of securing manufacturing materials for use in preclinical studies, clinical trials and, for any product candidates for which we receive regulatory approval, use as commercial supply;
- our ability to seek, establish and maintain a collaboration to develop XTX101 with a collaborator, including the financial terms and any cost-sharing arrangements of any such collaboration;
- the costs and timing of future commercialization activities for any of our product candidates for which we receive regulatory approval;
- the amount and timing of revenue, if any, received from commercial sales of any product candidates for which we receive regulatory approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property and proprietary rights and defending any intellectual property-related claims;
- the extent to which we may acquire or in-license other products, product candidates, technologies or intellectual property, as well as the terms of any such arrangements;
- the impacts of the COVID-19 pandemic; and
- the costs of continuing to expand our operations and operating as a public company.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for several years, if ever. Accordingly, we will need to obtain substantial additional funds to achieve our business objectives.

Our expectation with respect to our ability to fund current planned operations is based on estimates that are subject to risks and uncertainties. Our operating plan may change as a result of many factors currently

unknown to management and there can be no assurance that the current operating plan will be achieved in the time frame anticipated by us, and we may need to seek additional funds sooner than planned.

Adequate additional funds may not be available to us on acceptable terms, or at all. Market volatility resulting from the COVID-19 pandemic or other factors could also adversely impact our ability to access capital as and when needed. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Additional debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends and may require the issuance of warrants, which could potentially dilute your ownership interest.

If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may have to significantly delay, reduce or eliminate some or all of our product development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

For additional information on risks associated with our substantial capital requirements, please see “Risk Factors—Risks Related to Our Limited Operating History, Financial Position and Capital Requirements—Even if this offering is successful, we will need to obtain substantial additional funding to finance our operations and complete the development and any commercialization of any current or future product candidates. If we are unable to raise this capital when needed, we may be forced to delay, reduce or eliminate one or more of our research and development programs or other operations.”

### Contractual Obligations

The following table summarizes our contractual obligations as of payment due date by period as of December 31, 2020 (in thousands):

	Payments Due by Period				
	Total	Less Than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 Years
Operating lease commitments <sup>(1)</sup>	\$ 16,491	\$ 1,457	\$ 3,317	\$ 3,518	\$ 8,199
Note payable <sup>(2)</sup>	10,854	2,804	8,050	—	—
Obligations under license agreement <sup>(3)</sup>	5,000	5,000	—	—	—
Other obligations <sup>(4)</sup>	788	496	243	49	—
<b>Total</b>	<b>\$ 33,133</b>	<b>\$ 9,757</b>	<b>\$ 11,610</b>	<b>\$ 3,567</b>	<b>\$ 8,199</b>

(1) Represents future minimum lease payments under our non-cancellable operating lease for our corporate headquarters at 828 Winter Street, Suite 300, in Waltham, Massachusetts, which expires in March 2030. Our operating lease includes the option to extend the term for a period of five years at the then-market rental rate. The amounts in the table above do not include the optional extension.

(2) Consists of payment obligations for principal and interest under our loan and security agreement with PacWest, excluding the impact of our September 2021 amendment to the loan and security agreement and a contingent payment that will be payable to PacWest upon the closing of this offering.

(3) Represents installment payments for the upfront payment under our agreement with AskGene, which were paid in various installments through February 2021.

(4) Represents certain lab equipment leased through an equipment finance lease, which expires in July 2024. Other obligations consist of non-cancellable obligations related to a service agreement with a research vendor and certain IT software services.

In the normal course of business, we enter into agreements with contract research organizations for clinical trials and clinical supply manufacturing and with vendors for preclinical research studies and other services and products for operating purposes. We have not included these payments in the table of contractual obligations above since the contracts are generally cancellable by us for convenience. We may be subject to



certain termination fees or wind down costs upon termination of these agreements. Such costs are not fixed or estimable and are not included in the table of contractual obligations above.

In addition, we are party to certain agreements that require us to pay third parties upon achievement of certain development, regulatory or commercial milestones or upon the consummation of specified transactions, including an aggregate of up to \$1.5 million in payments to third parties in connection with the closing of this offering. Amounts related to contingent payments are not considered contractual obligations as they are contingent on the successful achievement of certain development, regulatory and commercial milestones that may not be achieved or upon the consummation of specified transactions that may not occur. We have not included payments contingent upon the achievement of certain development, regulatory or commercial milestones on our balance sheet. We have included the fair value of payments contingent upon the consummation of specific transactions on our balance sheet. We have not included any of these commitments in the table above because the achievement of these milestones or occurrence of these events is not fixed and determinable. For further information regarding certain of our license agreements and amounts that could become payable in the future under those agreements, please see the section of this prospectus titled “Business—License Agreements” and Note 9 to our consolidated financial statements appearing elsewhere in this prospectus.

#### **Off-Balance Sheet Arrangements**

We did not have, during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable SEC rules.

#### **Critical Accounting Policies and Use of Estimates**

Our management’s discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, as well as the reported expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in the notes to our consolidated financial statements appearing elsewhere in this prospectus, we believe the following accounting policies used in the preparation of our consolidated financial statements require the most significant judgments and estimates.

#### ***Research and Development Expenses and Related Accruals***

Research and development expenses are comprised of costs incurred in performing research and development activities, including salaries, equity-based compensation and benefits, facilities costs and laboratory supplies, depreciation, manufacturing expenses and external costs of outside vendors engaged to conduct planned clinical development, preclinical development, manufacturing and manufacturing process development and other research support activities. All costs associated with research and development activities are expensed as incurred.

As part of the process of preparing our consolidated financial statements, we are required to estimate our accrued expenses as of each balance sheet date. This process involves reviewing open contracts and purchase orders, communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of the actual cost. The majority of our service providers invoice us monthly in arrears for services performed or when contractual milestones are met. We make estimates of our accrued expenses as of each balance sheet date based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with certain service providers and make adjustments if necessary. The significant estimates in our accrued research and development expenses include the costs incurred for services performed by our vendors in connection with research and development activities for

which we have not yet been invoiced. In certain instances, we prepay for services to be provided in the future. These amounts are initially capitalized and subsequently expensed as the services are performed.

We base our expenses related to research and development activities on our estimates of the services received and efforts expended pursuant to quotes and contracts with vendors that conduct research and development on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the research and development expense. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or prepaid balance accordingly. Nonrefundable advance payments for goods and services that will be used in future research and development activities are initially capitalized and subsequently expensed when the activity has been performed or when the goods have been received rather than when the payment is made.

Although we do not expect our estimates to be materially different from amounts incurred, if our estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in us reporting accrued amounts that are too high or too low in any particular period. To date, there have been no material differences between our estimates of such expenses and the amounts incurred.

#### ***Equity-Based Compensation***

As described in Note 1 to our consolidated financial statements appearing elsewhere in this prospectus, in June 2020, we completed a series of transactions resulting in the reorganization of our corporate structure. Prior to such reorganization, our former parent company, Xilio Therapeutics, LLC, granted incentive units, which we accounted for as equity-classified awards. In connection with the reorganization, the incentive units were exchanged for shares of our vested and unvested restricted common stock. We issue equity-based awards to employees, directors and non-employees, generally in the form of stock options.

We measure employee equity-based compensation based on the grant date fair value of the equity-based awards and recognize equity-based compensation expense on a straight-line basis over the requisite service period of the awards, which is generally the vesting period of the respective award, in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*, or ASC 718. For awards subject to performance conditions, we recognize equity-based compensation expense using an accelerated recognition method over the remaining period when we determine that achievement of the milestone is probable. We recognize forfeitures as they occur. We classify equity-based compensation expense in the consolidated statements of operations and comprehensive loss in the same manner in which the award recipient's salary and related costs are classified or in which the award recipient's service payments are classified, as applicable.

#### ***Determination of the Fair Value of Equity-Based Awards***

We estimate the fair value of our stock options and, prior to our corporate reorganization, incentive units granted with service-based conditions using the Black-Scholes option pricing model, which requires inputs of subjective assumptions, including: (i) the expected volatility of our common stock, (ii) the expected term of the award, (iii) the risk-free interest rate, (iv) expected dividends and (v) the fair value of our common stock. Due to the lack of a public market for the trading of our common stock and a lack of company-specific historical and implied volatility data, we base the estimate of expected volatility on the historical volatilities of a representative group of publicly traded guideline companies. For these analyses, we select companies with comparable characteristics and with historical share price information that approximates the expected term of the equity-based awards. We compute the historical volatility data using the daily closing prices for the selected companies' shares during the equivalent period that approximates the calculated expected term of our stock options. We will continue to apply this method until a sufficient amount of historical information regarding the volatility of our own stock price becomes available. We estimate the expected term of our stock options granted to employees and directors using the simplified method, whereby the expected term equals the average of the vesting term and the original contractual term of the option. We utilize this method as we do not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term. The expected dividend yield is assumed to be zero as we have no current plans to pay any dividends on common

stock. We have elected to use the expected term for stock options granted to non-employees, using the simplified method, as the basis for the expected term assumption. However, we may elect to use either the contractual term or the expected term for stock options granted to non-employees on an award-by-award basis.

*Determination of Fair Value of Common Units and Common Stock*

As there has been no public market for either our common stock, common units or incentive units to date, the estimated fair value of our common units and common stock and the strike price of our incentive units has been approved by our board of directors, with input from management, as of the date of each award grant, considering the most recently available independent third-party valuations of our common stock and common units and our board of directors assessment, with input from management, of additional objective and subjective factors that we believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. These independent third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. We estimated the value of our equity using market approaches. The market approach includes using the market adjusted equity value method, guideline initial public offering, or IPO, transactions method and the recent transaction method which "back solves" to a preferred price. The hybrid approach is a scenario-based analysis and where one or more of the scenarios allocate the equity value utilizing the option-pricing method, or OPM. We allocated equity value to our common units, incentive units and preferred units or to our shares of common stock and shares of our convertible preferred stock, as the case may be, using either an OPM or a hybrid method, which is a hybrid between the OPM and the probability-weighted expected return method. The OPM treats common securities and preferred securities as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the common units and incentive units and common stock have value only if the funds available for distribution to members exceed the value of the preferred security liquidation preference at the time of the liquidity event, such as a strategic sale or a merger. When using the market approach to determine the equity value, we allocated the equity value to our common units, incentive units and preferred units or to our shares of common stock, warrants and shares of our convertible preferred stock, as the case may be, using the OPM. When using the hybrid approach, we estimated the probability-weighted value across multiple scenarios but used the OPM to estimate the allocation of value within at least one of the scenarios. In addition to a scenario using the OPM, the hybrid method also considers an IPO, scenario in which the shares of convertible preferred stock are assumed to convert to common stock. The future value of the common stock in the IPO scenario was discounted back to the valuation date at an appropriate risk adjusted discount rate. In the hybrid method, the present value indicated for each scenario was probability weighted to arrive at an indication of value for our common stock.

In addition to considering the results of these third-party valuations, our board of directors considered various objective and subjective factors to determine the fair value of our equity instruments as of each grant date, which may be later than the most recently available third-party valuation date, including:

- the lack of liquidity of our equity as a private company;
- the prices of our preferred units and convertible preferred stock sold to outside investors in arm's length transactions and the rights, preferences and privileges of our preferred units and convertible preferred stock as compared to those of our common units and common stock, including the liquidation preferences of our convertible preferred stock;
- the progress of our research and development efforts, including the status of preclinical studies for our product candidates;
- our stage of development and business strategy and the material risks related to our business and industry;
- the achievement of enterprise milestones, including entering into strategic collaborative and license agreements;
- the valuation of publicly traded companies in the life sciences and biotechnology sectors, as well as recently completed mergers and acquisitions of peer companies;

- any external market conditions affecting the biotechnology industry and trends within the biotechnology industry;
- the likelihood of achieving a liquidity event, such as an initial public offering or a sale of our company, given prevailing market conditions; and
- the analysis of initial public offerings and the market performance of similar companies in the biotechnology industry.

For financial statement purposes, we performed common unit valuations at various dates, which resulted in valuation of our common units of \$2.09, \$4.47 and \$5.51 per unit as of May 2019, February 2020, and May 2020, respectively. We performed common stock valuations at various dates, which resulted in valuation of our common stock of \$5.51, \$5.89, \$6.65, \$10.07 and \$11.69 per share as of July 2020, January 2021, March 2021, May 2021 and July 2021, respectively. The principal factors contributing to the increase in the valuation of our common stock from the March 2021 valuation to the May 2021 valuation were (i) the increase in the probability-weighting of the IPO scenario, which reflected our progress toward an IPO event, including an IPO organizational meeting with our management, underwriters and advisers and additional activities leading to the confidential submission of our first draft registration statement on Form S-1 to the Securities and Exchange Commission on May 24, 2021, (ii) an increase in the projected equity value used in the IPO scenario based on market conditions at the time of the valuation and (iii) a decrease in the discount for lack of marketability of the IPO scenario and a decrease in the anticipated period until the planned IPO event. The principal factors contributing to the increase in the valuation of our common stock from the May 2021 valuation to the July 2021 valuation were (i) the increase in the probability-weighting of the IPO scenario reflecting our continued progress toward an IPO event, (ii) an increase in the projected equity value used in the IPO scenario based on market conditions at the time of the valuation, and (iii) a decrease in the discount for lack of marketability of the IPO scenario.

There are significant judgments and estimates inherent in these valuations. These judgments and estimates include assumptions regarding our future operating performance, the stage of development of our product candidates, the timing and probability of a potential initial public offering or other liquidity event and the determination of the appropriate valuation methodology at each valuation date. The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our equity-based compensation expense could be materially different.

Once a public trading market for our common stock has been established in connection with the consummation of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our common stock in connection with our accounting for granted stock options and restricted stock awards, as the fair value of our common stock will be determined based on the trading price of our common stock on the Nasdaq Global Market.

The following table summarizes by grant date and type of award, the number of equity-based awards granted between January 1, 2019 and the date of this prospectus, the per share exercise price, the fair value of common stock on each grant date and the per share estimated fair value of the awards:

Grant Date	Type of Award	Number of Units or Shares Subject to Awards Granted	Per Unit Strike Price or per Share Exercise Price	Fair Value of Common Unit or Stock on Grant Date	Per Unit or Share Estimated Fair Value of Awards on Grant Date <sup>(1)</sup>
February 19, 2019	Incentive unit	32,100	\$ 0.86	\$ 0.86	\$ 0.54
March 28, 2019	Incentive unit	2,105	\$ 0.86	\$ 0.86	\$ 0.54
June 14, 2019	Incentive unit	279,324	\$ 1.05	\$ 2.09	\$ 1.56
September 20, 2019	Incentive unit	19,470	\$ 1.05	\$ 2.09	\$ 1.55
March 12, 2020	Incentive unit	512,077	\$ 1.43	\$ 4.47	\$ 3.59
July 23, 2020	Stock option	857,828	\$ 5.51	\$ 5.51	\$ 3.60
February 8, 2021	Stock option	89,292	\$ 5.89	\$ 5.89	\$ 4.17
March 11, 2021	Stock option	1,507,279	\$ 5.89	\$ 5.89	\$ 4.21
March 29, 2021	Stock option	381,316	\$ 6.65	\$ 6.65	\$ 4.75
April 1, 2021	Stock option	45,652	\$ 6.65	\$ 6.65	\$ 4.75
April 8, 2021	Stock option	111,797	\$ 6.65	\$ 6.65	\$ 4.75
April 15, 2021	Stock option	111,797	\$ 6.65	\$ 6.65	\$ 4.75
June 17, 2021	Stock option	338,011	\$ 10.07	\$ 10.07	\$ 6.95
August 23, 2021	Stock option	408,777	\$ 11.69	\$ 11.69	\$ 8.03

(1) The estimated fair value per share of the awards represents our measurement of the weighted-average fair value of option grants using the Black-Scholes model and does not reflect any subsequent modifications of the awards that may have occurred.

#### Emerging Growth Company and Smaller Reporting Company Status

As an emerging growth company, or EGC, under the Jumpstart Our Business Startups Act of 2012, or JOBS Act, we may delay the adoption of certain accounting standards until such time as those standards apply to private companies. Other exemptions and reduced reporting requirements under the JOBS Act for EGCs include presentation of only two years of audited financial statements in a registration statement for an IPO, an exemption from the requirement to provide an auditor's report on internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, an exemption from any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation, and less extensive disclosure about our executive compensation arrangements.

In addition, the JOBS Act provides that an EGC can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an EGC to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have elected not to "opt out" of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we can adopt the new or revised standard at the time private companies adopt the new or revised standard and may do so until such time that we either (1) irrevocably elect to "opt out" of such extended transition period or (2) no longer qualify as an emerging growth company. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

We may remain classified as an EGC until the end of the fiscal year in which the fifth anniversary of this offering occurs, although if the market value of our common stock that is held by non-affiliates exceeds \$700 million as of any June 30 before that time or if we have annual gross revenues of \$1.07 billion or more in

any fiscal year, we would cease to be an emerging growth company as of December 31 of the applicable year. We also would cease to be an EGC if we issue more than \$1 billion of non-convertible debt over a three-year period.

We are also a “smaller reporting company,” meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than \$700 million and our annual revenue was less than \$100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than \$700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies.

#### **Recent Accounting Pronouncements**

For a description of recent accounting pronouncements, see Note 2 of the notes to our consolidated financial statements for the year ended December 31, 2020 appearing elsewhere in this prospectus.

#### **Quantitative and Qualitative Disclosures About Market Risks**

##### *Interest Rate Fluctuation Risk*

We are not currently exposed to significant market risk related to changes in interest rates. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our cash and cash equivalents are primarily held in FDIC insured accounts within various U.S. banking institutions and we have a note payable. An immediate change in market interest rates of 100 basis points would not have a material impact on the fair market value of our cash and cash equivalents balance, note payable or on our financial position or results of operations.

##### *Foreign Currency Fluctuation Risk*

We are not currently exposed to significant market risk related to changes in foreign currency exchange rates; however, we have contracted with and may continue to contract with foreign vendors. Our operations may be subject to fluctuations in foreign currency exchange rates in the future.

##### *Inflation Fluctuation Risk*

Inflation generally affects us by increasing our cost of labor and certain services. We do not believe that inflation had a material effect on our financial statements included elsewhere in this prospectus.

**BUSINESS****Overview**

We are a biotechnology company focused on harnessing the immune system to achieve deep and durable clinical responses to improve the lives of patients with cancer. We have built our geographically precise solutions, or GPS, platform to rapidly engineer novel molecules, including cytokines and other biologics, that are designed to optimize their therapeutic index by geographically localizing their activity inside tumors. Current immuno-oncology, or I-O, therapies have curative potential for patients with cancer; however, their potential is significantly curtailed by systemic toxicity that results from activity of the therapeutic molecule outside the tumor microenvironment, or TME. Our molecules are engineered to localize activity within the TME with minimal systemic effects, resulting in the potential to achieve enhanced anti-tumor activity. We are advancing a number of geographically precise, or tumor-selective, agents through various stages of development. Our most advanced product candidates are XTX101, an anti-cytotoxic T-lymphocyte-associated protein 4, or anti-CTLA-4, monoclonal antibody, or mAb, and XTX202, an interleukin 2, or IL-2, therapy. We are also advancing our tumor-selective IL-12 product candidate, XTX301, with the goal of submitting an IND in the second half of 2022, and we are currently pursuing preclinical studies for our tumor-selective IL-15 product candidate, XTX401. We also plan to continue to leverage our GPS platform to develop additional immunotherapies, including product candidates with a range of tumor targeting approaches.

XTX101 is a clinical-stage, tumor-selective anti-CTLA-4 mAb that is designed to improve upon the therapeutic index of existing anti-CTLA-4 therapies by localizing its activity in the TME. Leveraging our GPS platform, we have engineered XTX101 to enhance the desirable features of an anti-CTLA-4 antibody while addressing its known liabilities. In June 2021, the U.S. Food and Drug Administration, or FDA, cleared our investigational new drug application, or IND, for XTX101, and we recently initiated our Phase 1/2 trial to evaluate XTX101 in patients with advanced solid tumors. Our Phase 1 dose-escalation trial is a first-in-human, multi-center, open-label trial that will evaluate the safety and tolerability of XTX101 at the target dose with the goal of establishing a recommended Phase 2 dose, or RP2D, both as a monotherapy and in combination with KEYTRUDA<sup>®</sup> (pembrolizumab), an anti-PD-1. We expect to present preliminary data for the monotherapy cohort for this trial in the middle of 2022 and preliminary data for the combination cohort for this trial in the second half of 2022. In May 2021, we entered into a clinical trial collaboration and supply agreement with Merck & Co., Inc., known as MSD outside the United States and Canada, to explore XTX101 in combination with pembrolizumab in patients with advanced solid tumors. In preclinical studies, we observed that XTX101 was activated *ex vivo* using human tumor samples showing cleavage of the masking domain. In mouse models, XTX101 demonstrated anti-tumor activity at 0.3 mg/kg, similar to an ipilimumab analogue at 3 mg/kg, and showed tolerability at doses up to 3 mg/kg in non-human primates, or NHPs.

XTX202 is an engineered form of IL-2 that is masked with a protein domain to prevent binding activity until the protein domain is cleaved off by TME-associated proteases. In preclinical studies, we observed that XTX202 was activated in a protease-dependent manner, including in preclinical studies using human tumor samples *ex vivo* showing XTX202 was able to cleave the masking domain, exhibited tumor growth inhibition and was well-tolerated in NHP models up to 10 mg/kg. In October 2021, the FDA cleared our IND for XTX202. We anticipate initiating a Phase 1/2 trial to evaluate XTX202 in multiple solid tumor types in the first quarter of 2022, and we expect to present preliminary Phase 1 data in the second half of 2022. In addition, assuming we successfully complete the Phase 1 trial and determine the RP2D for XTX202, we plan to initiate clinical trials of XTX202 in combination with current standard-of-care agents to assess the ability to dose XTX202 at its RP2D in combination with a therapeutic dose of current standard-of-care treatments.

Leveraging our experience, we are applying our GPS platform to known cytokines that we believe have meaningful therapeutic potential, but that have been unable to achieve regulatory approval. We are developing XTX301, our engineered tumor-selective IL-12 molecule, with the goal of submitting an IND in the second half of 2022, and we are currently pursuing preclinical studies for XTX401, our tumor-selective IL-15 product candidate. Both of these cytokine product candidates exhibited tumor-selective activity with minimal peripheral effects in preclinical models, showed tumor growth inhibition in mouse models and were well-tolerated in multi-dose studies in NHP models.

We currently have worldwide development and commercialization rights to all of our product candidates.

**Our Approach—Improving the Therapeutic Index of I-O Therapies**

Our focus is to improve upon two of the foundational mechanisms of I-O: cytokines and checkpoint inhibitors. Since the 1980s, cytokines have been explored as a cancer therapy due to their ability to carry messages between cells and serve as master regulators of the body's response to inflammation and immune attack. Although cytokines have demonstrated compelling clinical efficacy in certain tumors, including the ability to generate sustained complete responses, or CRs, in a subset of patients, their use is limited by severe systemic toxicity. Similar to cytokines, checkpoint inhibitors have shown the potential to provide meaningful improvements in survival for patients with cancer, but the utilization of these therapies, beyond those that target the immune proteins PD-1 or PD-L1, is also limited largely by toxicity.

Our goal is to overcome the limitations of current I-O therapies by developing products with an improved efficacy-to-toxicity ratio, or therapeutic index. The toxicities for cytokines and checkpoint inhibitors stem from their activity outside of the TME. Our GPS platform is designed to overcome these systemic toxicities by creating tumor-selective molecules and unleashing the activity of cytokines and checkpoint inhibitors in the TME. These molecules are intended to be inactive until they reach the TME, where they are activated, resulting in localized clinical activity with minimal dose-limiting toxicities. To achieve this tumor selectivity, we apply our GPS platform, which includes engineered features and a proprietary protein masking technology that render our molecules inactive until reaching the tumor. Our GPS platform also enables regulated pharmacokinetics, or PK, and protease-dependent activation, resulting in geographically localized anti-tumor activity. The engineered features are designed to ensure that our product candidates are stable molecules with well-understood properties and a reproducible manufacturing approach.

Leveraging our GPS platform, we intend to develop a number of additional product candidates using a range of tumor targeting approaches, with the goal of achieving a clinically meaningful improvement in their therapeutic index. We also plan to evaluate opportunities for better tolerated and more efficacious combination therapies, using product candidates from across our portfolio with other cancer therapies, to increase the potential for curative regimens in oncology. Beyond oncology, we also plan to apply our GPS platform to other disease areas in which the immune system is dysregulated, such as in autoimmune and inflammatory diseases.

**Our History and Team**

We believe that the collective track record of our executive team, scientific advisory board, or SAB, and talented employees positions us to successfully bring therapies from discovery through development and ultimately, if approved, to commercialization.

We have attracted a diverse executive leadership team comprised of industry professionals and scientists with extensive expertise in building and leading successful biotech companies. Collectively, members of our executive team have contributed significantly to the filing of over 40 INDs and over 30 new drug applications, or NDAs, supplemental NDAs and biologics license applications, or BLAs, including for ground-breaking cancer treatments such as pembrolizumab, dostarlimab, niraparib, docetaxel and trastuzumab. Our executive leadership includes our president and chief executive officer, René Russo, Pharm.D., who has over 20 years of experience leading all aspects of research and development, or R&D, and commercialization in the biotechnology industry, including six successful commercial products, with leadership roles at Adagio Therapeutics, Inc. as co-founder and chairman of the board, Arsanis, Inc. as president and chief executive officer, Cubist Pharmaceuticals, Inc. and Bristol-Myers Squibb Company. Martin Huber, M.D., our president of R&D and chief medical officer, is a medical oncologist trained at the University of Texas M.D. Anderson Cancer Center, who has over 25 years of experience in R&D and commercialization in the pharmaceutical and biotechnology industries and has led multiple cancer immunotherapy programs, including at Tesaro, Inc., Merck & Co., Inc. and F. Hoffman-La Roche AG. Li Malmberg, Ph.D., our chief technology and manufacturing officer, brings 25 years of scientific and executive leadership experience managing technical operations and chemistry manufacturing and controls strategy from preclinical development through commercial launch of small molecules and biologics including at Magenta Therapeutics, Inc., Celgene Corporation and AbbVie. Our chief financial officer, Salvatore Giovine, has nearly 20 years of financial leadership and management experience, primarily with Johnson & Johnson.



In addition to our executive team, we have established an SAB comprised of leading experts in the fields of oncology, immunology, human genetics, cytokines, protease biology, translational oncology and cancer drug development: Chris Hunter, Ph.D., Deborah Charych, Ph.D., Jamie Spangler, Ph.D., Kwok Wong, M.D., Ph.D., Andy Minn, M.D., Ph.D., Jason Luke, M.D. and Anthony O'Donoghue, Ph.D.

### Our Strategy

Our vision is to transform the lives of patients with cancer by harnessing the power of highly potent, tumor-selective I-O therapies that deliver deep and durable clinical responses. By leveraging our GPS platform, we aim to discover, develop and, ultimately, commercialize I-O therapies that overcome the known limitations of today's approaches and provide effective, tolerable and durable therapeutic options for patients and their physicians. In order to achieve our goal, the key elements of our strategy are to:

- **Efficiently progress our most advanced cytokine product candidate, XTX202, through clinical development for multiple cancer indications as both a monotherapy and a combination agent.** Using our GPS platform, we engineered and are developing XTX202, a novel, modified form of IL-2 that is masked with a protein domain to prevent binding activity until cleaved off by TME-associated proteases. Due to its mechanism of action and opportunity to deliver tumor-directed activity while minimizing the risk of off-tumor effects, we plan to explore the therapeutic utility of XTX202 for the treatment of solid tumor indications. In October 2021, the FDA cleared our IND for XTX202. We anticipate initiating a Phase 1/2 trial to evaluate XTX202 in multiple solid tumor types in the first quarter of 2022, and we expect to present preliminary Phase 1 data in the second half of 2022. If we receive positive findings from the Phase 1/2 trial, and subject to discussions with regulatory authorities, we intend to efficiently advance XTX202 into registration-enabling clinical trials both as a monotherapy and as a combination therapy initially for the treatment of renal cell carcinoma, or RCC, and melanoma prior to potential expansion into additional cancer indications.
- **Execute our Phase 1/2 development program for XTX101 and, if successful, transition to randomized registration-enabling trials in a range of solid tumor indications.** In June 2021, the FDA cleared our IND for XTX101, and we recently initiated our Phase 1/2 trial for XTX101 in patients with advanced solid tumors, which is designed to evaluate the safety of XTX101 as monotherapy and in combination with pembrolizumab. We expect to present preliminary data for the monotherapy cohort for this trial in the middle of 2022 and preliminary data for the combination cohort for this trial in the second half of 2022. Following establishment of a RP2D for XTX101 in combination with pembrolizumab, we plan to initiate registration-enabling trials of XTX101 in combination with an anti-PD(L)-1 in a range of advanced solid tumor types, including melanoma, RCC and non-small cell lung cancer, or NSCLC, based on the established role of ipilimumab in these indications. Given the broad range of potential indications, we plan to explore opportunities for strategic collaborations to maximize the full potential of XTX101 and support its future commercialization, if approved.
- **Advance our preclinical cytokine product candidates, XTX301 and XTX401, into clinical development.** Leveraging our experience, we are also applying our GPS platform to known cytokines that we believe have meaningful therapeutic potential but that have been unable to achieve regulatory approval to date. As part of our strategy, we are developing XTX301 and XTX401, which are engineered tumor-selective IL-12 and IL-15 molecules, respectively. We are advancing XTX301 with the goal of submitting an IND in the second half of 2022, and we are currently pursuing preclinical studies for XTX401, our tumor-selective IL-15 product candidate. In preclinical models, both product candidates exhibited tumor-selective activity with minimal peripheral effects.
- **Broadly expand our portfolio by applying the versatility and reproducibility of our GPS platform to develop novel I-O therapies for cancer.** We have prioritized efforts to develop novel I-O therapies based on the therapeutic activity of I-O agents established in other clinical trials, while recognizing that the benefit of many of these I-O agents, particularly cytokines, has been historically hampered by issues of short half-life, poor bioavailability and significant toxicity. By leveraging the insights and capabilities of our platform and our leadership team, we aim to systematically create novel molecules, including cytokines and other biologics, that overcome these challenges to safely localize their potent activity to the TME. We believe that our GPS platform, which enables us to develop molecules with the potential to trigger anti-tumor immunity while limiting systemic exposure to improve tolerability, is broadly

applicable in oncology. As a result, we intend to develop a number of additional product candidates using a range of tumor targeting approaches, with the goal of achieving a clinically meaningful improvement in their therapeutic index. We plan to continue to invest in our innovative GPS platform and in our team to further expand our capabilities to engineer, manufacture and develop potentially more effective and less toxic therapies.

- **Build a fully-integrated I-O company by independently commercializing approved products in indications and key geographies where we believe we can maximize our product candidates' value.** We currently own all worldwide development and commercialization rights to our product candidates and programs, which we believe have been optimally selected based on our extensive preclinical data, including data with disease-specific animal models and biomarkers, supporting their potential for clinical success. To maximize the full potential and value of our pipeline, we intend to retain key development and commercialization rights for our product candidates in key indications and geographies where we believe we can ultimately commercialize successfully on our own, if approved. In addition, we intend to pursue strategic collaborations where a collaborator may have geographic operations or other capabilities that are synergistic or additive to our own.
- **Leverage the broad applicability of our GPS platform through strategic collaborations in autoimmune diseases.** We believe the collective components of our GPS platform and the reproducibility it enables in our drug discovery and development efforts present a meaningful opportunity for us to leverage our GPS platform not only in oncology but also in multiple therapeutic areas beyond oncology, such as in autoimmune and inflammatory diseases. We plan to explore strategic collaborations that would enable us to accelerate the development of additional product candidates or programs as well as expand our capabilities, pipeline opportunities and product offerings, particularly where a collaborator may have expertise or capabilities that are synergistic or additive to our own.

### About I-O

The discovery of a role for immunotherapy in the treatment of cancer was made more than 100 years ago, when William Coley treated patients with heat-treated bacterial toxins, resulting in a profound anti-tumor effect in some of those patients. Two of the most important mechanisms within I-O are checkpoint inhibitors and cytokines, with cytokine therapies having been introduced in the 1980s and checkpoint inhibitors in the period after 2011, when the first such product was approved. Both therapeutic approaches are known to provide efficacy in terms of clinical responses and tumor shrinkage. However, toxicities have limited the application of these therapies, resulting in the need to dose-reduce, dose-interrupt or discontinue many patients from treatment. Immune checkpoint inhibitors are associated with immune-related adverse events, or AEs, that may affect any organ system and may be life-threatening or fatal to patients. Cytokines in particular are associated with broad ranging multi-organ toxicities that can be lethal and have limited the development of this class of potential therapies. Anti-PD-1 checkpoint inhibitors have been used broadly because they achieve efficacy with minimal systemic toxicity, enabling their administration at their maximally effective doses. Anti-PD-1 treatments have been the most widely utilized immunotherapy agent in oncology, with FDA approvals in more than a dozen separate tumor types and \$27 billion in 2020 worldwide sales. It is our mission to overcome the limitations of other checkpoint inhibitors, such as anti-CTLA-4, and cytokine therapies and make immunotherapies beyond anti-PD-1 treatments more accessible, efficacious and safe for patients with cancer.

### *The promise and limitations of cytokines*

Cytokines are small proteins that carry messages between cells and serve as master regulators of the body's response to inflammation and immune attack. There are multiple cytokines, including interferon alpha ( $\alpha$ ), beta ( $\beta$ ) and gamma ( $\gamma$ ), as well as IL-2, which are approved in a range of oncology and non-oncology indications. Interferon  $\alpha$  was first approved in 1986 for the treatment of patients with hairy cell leukemia and was subsequently approved in a range of oncology indications including malignant melanoma, chronic myeloid leukemia and follicular lymphoma. Aldesleukin, a high-dose IL-2 therapy, was first approved in 1992 as a monotherapy for patients with melanoma and RCC. In addition, interferons have shown the potential for cytokines beyond oncology with approvals for the treatment of patients with multiple sclerosis, resulting in cytokines becoming a key treatment option for a range of conditions. However, cytokines have not achieved therapeutic success in a broad population of patients because their use has been limited by severe toxicity,

including fatal outcomes. We believe XTX202, our tumor-selective IL-2 product candidate, has the potential to overcome these limitations and deliver the full clinical benefit of IL-2 without the dose-limiting toxicities associated with existing IL-2 treatments.

#### ***The promise and limitations of checkpoint inhibitors***

Checkpoint inhibitors have become mainstays in cancer therapy since the FDA approved ipilimumab, an anti-CTLA-4 therapy, in 2011. As has been observed with cytokines, checkpoint inhibitors have shown the potential to provide meaningful improvements in survival for patients with cancer, but the utilization of these therapies has been limited largely by toxicities. These toxicities, which can be life-threatening or fatal, have resulted in the need to dose-reduce, dose-interrupt or discontinue many patients from treatment. As noted earlier, anti-PD-1 checkpoint inhibitors have been used broadly because they achieve efficacy with minimal systemic toxicity, enabling their administration at their maximally effective doses. The clinical benefit of CTLA-4 blockade to patients with cancer is well-established; however, efficacy of current therapies is impaired by dose-limiting toxicities arising from systemic immune activation. This has reduced the use of anti-CTLA-4 mAbs both as a monotherapy and in combination therapy. We believe XTX101, our tumor-selective anti-CTLA-4 mAb, has the potential to overcome these limitations and deliver the full clinical benefit of anti-CTLA-4 mechanisms without the dose-limiting toxicities associated with existing CTLA-4 treatments.

#### ***I-O Combinations***

The ability to combine oncology agents has been an important step in developing effective cancer regimens. Combination chemotherapy can be curative in settings where single agents have had limited efficacy and were not considered curative. The substantial dose-limiting toxicities associated with I-O agents has prevented these agents from being combined effectively. The ultimate promise of I-O for patients is dependent upon the ability to develop I-O agents that can be combined at their optimal doses without life-threatening toxicity. The severe toxicity of IL-2 has limited the ability to combine IL-2 with other cancer treatments without compromising the dose administered. Ipilimumab has been combined with anti-PD-1 agents. The combination of ipilimumab with nivolumab, which targets the immune checkpoint protein PD-1, was associated with improved clinical outcomes but was limited by significantly higher risk of all-grade and high-grade immune-related AEs such as pruritus, rash, diarrhea, colitis, elevation of the liver enzyme alanine transaminase, known as ALT, hyperthyroidism, hypophysitis and pneumonitis. Of note, combination therapy generally requires use of low dose ipilimumab at 1 mg/kg rather than the more efficacious dose of 10mg/kg. Even at the lower dose, ipilimumab combination therapy is poorly tolerated, with AEs causing up to 80% of patients to discontinue treatment, up to 50% of patients requiring emergency room visits and up to 36% of patients requiring hospitalization. The potential of our GPS-enabled molecules to minimize the systemic toxicity of I-O could allow us to combine I-O agents to meaningfully improve survival in a broader range of tumor types.

#### **Our Solution: Our GPS Platform Enables Tumor-Selective I-O Molecules Designed to Optimize Their Therapeutic Index**

I-O therapies have curative potential for patients with cancer. However, this potential is significantly curtailed by dose-limiting toxicities that result from activity of the therapeutic molecule outside the TME. We believe that geographic localization of the activity of I-O agents to the TME can overcome these dose-limiting toxicities and enable maximal therapeutic benefit for patients. Tumor-selective activity could be achieved by harnessing unique characteristics of the TME to activate therapeutic molecules locally that have minimal or non-detectable levels of activity outside of the TME.

Matrix metalloproteases, or MMPs, are enzymes involved in protein degradation that are essential for tumor growth and metastasis because they regulate key processes within the TME, including growth, survival, angiogenesis, invasion and metastasis. MMPs are preferentially active in the TME by comparison to non-tumor organs or tissues. As a result, MMP activity can be leveraged to activate molecules within the TME that have minimal or non-detectable levels of activity outside the TME. This has been validated by the MMP activated imaging agent AVB-620, which selectively highlights tumor tissue in human clinical studies and has received Breakthrough Therapy Designation from the FDA as a diagnostic. Similarly, our GPS platform harnesses MMPs to activate therapeutic molecules selectively within the TME while allowing them to have minimal or non-detectable levels of activity outside of the TME.

Our GPS platform enables us to engineer a broad range of immune-modulatory molecules, including cytokines and antibodies, that contain masking domains that minimize the activity of these molecules outside of the TME. The molecules are then designed to be turned on selectively in the TME where they are activated by the unique conditions in the TME, including the preferential activity of MMPs. Specifically, MMPs cleave a linker that connects the masking protein domain to the active agent. This separates the mask from the active agent, enabling the unmasked agent to promote an anti-tumor response within the TME.

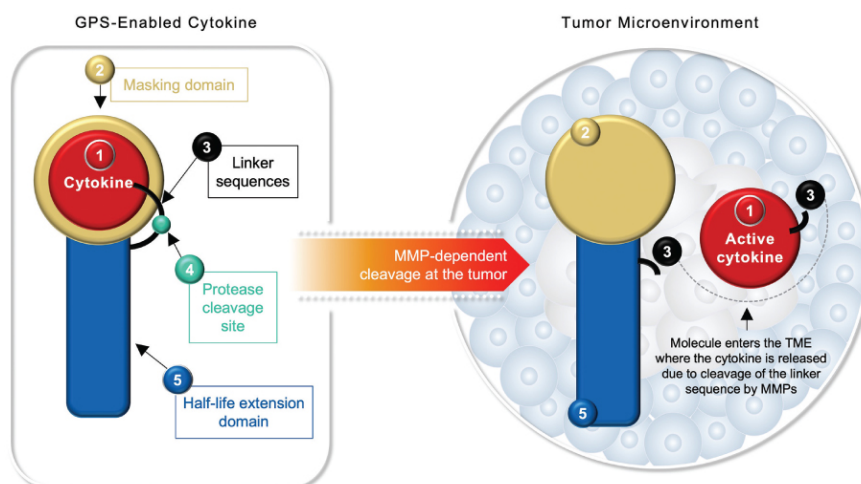
Key features of our tumor-selective molecules exemplify the engineering approach that underpins our GPS platform. Each feature contributes to multiple characteristics of the molecule that are designed to enable tumor selective biological activity and tumor growth inhibition while minimizing toxicity outside of the TME. The general architecture of a GPS-enabled molecule is:

- a masking domain;
- linker sequences;
- a protease cleavage site;
- solely for GPS-enabled cytokines, a half-life extension domain; and
- the active engineered molecule (i.e., an engineered cytokine or antibody).

The engineered features are designed to ensure that our product candidates are stable molecules with well-understood properties and a reproducible manufacturing approach. In preclinical studies, we have successfully applied our GPS platform to cytokines and antibodies that regulate immune checkpoints in order to promote localized anti-tumor immune responses, while avoiding the dose-limiting toxicities associated with systemic immune responses.

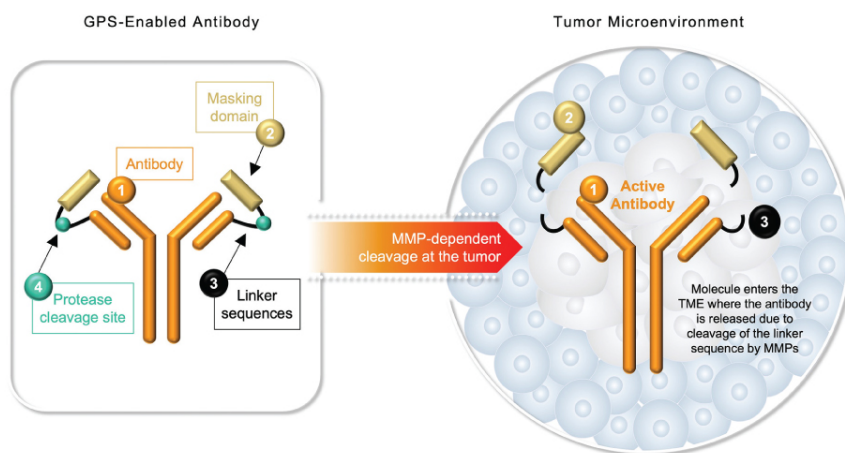
In the graphic below, an illustrative cytokine product candidate on the left contains a masking domain that is released by protease cleavage. When the linker sequences, which contain a protease-cleavage site, are cleaved by proteases, the masking domain is released, allowing the cytokine to bind to the target receptors. Before cleavage by the MMP in the TME, the engineered cytokine has minimal or non-detectable levels of activity outside the TME. Specifically, there is no binding to target receptors, and the molecule has a long half-life outside the TME. After cleavage in the TME, the engineered cytokine is locally activated and has a short half-life.

#### Key Features of GPS-Enabled Cytokines



Similarly, in the graphic below, an illustrative antibody product candidate on the left contains a masking domain that is released by protease cleavage. The masking domain is shown in tan and the active antibody is shown in orange. When the linker sequences, shown in black, which contain a protease-cleavage site, shown in green, are cleaved by proteases, the masking domain is released, allowing the antibody to bind to the target receptors for cytokines. Before cleavage by the MMP in the TME, the engineered antibody has minimal or non-detectable levels of activity outside the TME. Specifically, there is no binding to target receptors. After cleavage in the TME, the engineered antibody is locally activated.

#### Key Features of GPS-Enabled Antibodies



As shown in the graphics above, the structural components comprising our GPS platform work synergistically to improve the therapeutic index of our product candidates. These design features also enhance intrinsic stability of the molecule and manufacturing.

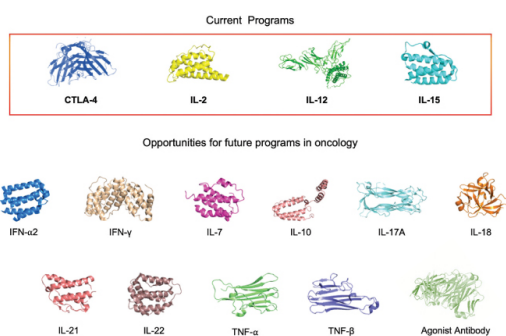
- **Masking Domain.** The masking domain is a protein domain that is selected for optimal masking outside of the TME and allows efficient activation upon cleavage by a protease within the TME. Masking of the engineered molecule is designed to prevent binding to its cognate receptor on immune cells, thereby minimizing biological activity outside the TME. In addition, the masking domain contributes to improved PK properties and a longer half-life for the inactive molecule by reducing target mediated drug disposition.
- **Linker Sequences.** Linker sequences connect the engineered molecule and the mask to the half-life extension domain and are selected to optimize masking and stability of the molecule.
- **Protease Cleavage Site.** A protease cleavage site within a linker sequence allows cleavage by a subset of proteases, particularly MMPs, unmasking the engineered molecule and allowing it to affect its engineered immune activity. We tailor the protease site for optimal masking and subsequent activation of the engineered molecule in the TME. Biochemical, cell-based and *ex vivo* functional studies have demonstrated, with a subset of MMPs, efficient and full cleavage and complete rescue of cytokine activity and selective activation of the masked engineered molecule in the TME by comparison to non-tumor tissues. These data have been further substantiated by *in vivo* studies in mice and NHPs that demonstrate engineered molecule activity in the TME, but not outside of the TME, and also demonstrate the tumor-selective activation of the protease sites incorporated into GPS-enabled engineered molecule.
- **Half-Life Extension Domain.** The half-life extension domain is designed to overcome the short circulating half-life of native cytokines such that the inactive masked cytokine circulates for a prolonged period while outside of the TME. For antibodies, a half-life extension is not required given their longer half-life.

We believe that the characteristics of our GPS platform described above enable the following key advantages :

- masking that takes advantage of multiple intra-molecular interactions, minimizing the risk of activity outside of the TME and therefore the risk of toxicity;
- engineering the active molecule such that unmasking in the TME promotes a potent anti-tumor immune response;
- early consideration and incorporation of manufacturing and development aspects into the design of molecules to facilitate production of high-quality drug product for clinical use;
- half-life extending inactive cytokines to support administration to patients on a schedule consistent with other biologics agents; and
- locally activating cytokine molecules that have a short half-life in the TME, which minimizes the risk of the released cytokine exhibiting activity outside of the TME and, therefore, further reduces the risk of toxicity.

We have shown preclinical validation of the ability of our GPS platform to develop tumor-selective antibodies and cytokines, as evidenced by our tumor-selective anti-CTLA-4 antibody, XTX101, and our tumor-selective IL-2, XTX202. In preclinical studies, each of these product candidates has exhibited tumor-selective biological activity, tumor growth inhibition and minimal to no toxicity outside of the TME. In addition, the reproducibility of these data, as evidenced by tumor-selective activity observed in preclinical studies with our engineered IL-12 and IL-15 cytokines, XTX301 and XTX401, highlights the potential breadth of application of our GPS platform to multiple structurally diverse cytokines or antibodies. We believe our GPS platform can be applied to numerous molecules, including those shown in the image below, which have potential as cancer therapies, but need localized activity within the TME to overcome the dose-limiting toxicities that result from activity outside of the TME.

#### Potential Applicability of Our GPS Platform



#### Our Pipeline

Leveraging our GPS platform, we are building a pipeline of tumor-selective cytokine and checkpoint inhibitor immunotherapies to treat cancer. Our goal is to overcome the limitations of current I-O therapies by developing products with an improved therapeutic index.

Consistent with this goal, we selected molecules that have prior clinical validation demonstrating therapeutic benefit, but are limited by significant toxicities that we believe can be addressed with our approach. We have worldwide development and commercialization rights to all of our product candidates.

The following chart summarizes our product candidates and anticipated upcoming milestones.

Tumor-Selective Programs	Mechanism of Action	Discovery	IND-Enabling	Phase 1	Phase 2	Phase 3	Upcoming Milestones
XTX101 <sup>(1)</sup>	Anti-CTLA-4						Preliminary Phase 1 Monotherapy Data Mid-2022
XTX202 <sup>(2)</sup>	IL-2						Preliminary Phase 1 Data 2H 2022
XTX301	IL-12						IND Submission 2H 2022
XTX401	IL-15						IND-Enabling Studies

(1) We plan to initially evaluate XTX101 as a monotherapy and as a combination therapy for the treatment of advanced solid tumors.

(2) We plan to initially evaluate XTX202 as a monotherapy and as a combination therapy for the treatment of renal cell carcinoma and melanoma prior to potential expansion into additional cancer indications

Our development strategy is focused on three important concepts:

- (1) achieve an acceptable safety profile while maintaining dose levels sufficient to confer localized activity in the tumor;
- (2) establish clinical proof-of-concept, or POC, as a monotherapy; and
- (3) demonstrate the combinability of our molecules so they can be explored and administered with relevant standard-of-care agents to potentially improve patient outcomes.

Assuming we successfully achieve an improved therapeutic index during our initial clinical trials, we plan to proceed into an expansive set of registration-enabling clinical trials across a range of tumor types.

#### ***XTX101, our clinical-stage tumor-selective checkpoint inhibitor program***

XTX101 is a clinical-stage, tumor-selective anti-CTLA-4 mAb that is designed to improve upon the therapeutic index of existing anti-CTLA-4 therapies. Using our GPS platform, we have engineered XTX101 to enhance the desirable features of an anti-CTLA-4 antibody while minimizing its known limitations due to toxicity. We approached this by using CDR masking of the antibody, identifying an antibody with improved binding to CTLA-4 and engineering enhanced binding to the Fcγ receptors. A complimentary-determining region, or CDR, is part of the variable chains in antibodies and T cell receptors where molecules bind to their specific antigen. In June 2021, the FDA cleared our IND for XTX101, and we recently initiated our Phase 1/2 trial to evaluate XTX101 in patients with advanced solid tumors. Our Phase 1/2 dose-escalation trial is a first-in-human, multi-center, open-label trial that will evaluate the safety and tolerability of XTX101 at the target dose with the goal of establishing an RP2D both as a monotherapy and in combination with KEYTRUDA<sup>®</sup> (pembrolizumab), an anti-PD-1. We expect to present preliminary data for the monotherapy cohort for this trial in the middle of 2022 and preliminary data for the combination cohort for this trial in the second half of 2022. In May 2021, we entered into a clinical trial collaboration and supply agreement with Merck & Co., Inc., known as MSD outside the United States and Canada, to explore XTX101 in combination with pembrolizumab in patients with advanced solid tumors. Given the significant size of the opportunity, including in melanoma, NSCLC and prostate cancer, and the trials required to fully develop XTX101, we plan to seek collaboration opportunities to develop XTX101.

We have evaluated XTX101 in several preclinical studies, and, while there can be no assurances that these results will be replicated in clinical trials, we have observed activation of XTX101 at our target doses in the TME leading to enhanced activity and an improved tolerability profile compared to an ipilimumab analog.

#### ***Background on CTLA-4***

CTLA-4 is an immune checkpoint protein that is well-established as playing a central role in the development of tumors. The scientific insight that led to the early development of CTLA-4 therapeutics is attributable to

investigators recognizing CTLA-4 as a protein on T cells that acts as a brake on T cell activation. By removing this brake, T cells were freed to attack cancer. This work led to the development and FDA approval of ipilimumab, a CTLA-4 mAb, for the treatment of unresectable or metastatic melanoma at a dose of 3 mg/kg in 2011 and in additional indications in subsequent years.

While anti-CTLA-4 therapies such as ipilimumab have demonstrated meaningful efficacy across a range of tumor types, autoimmune toxicities have significantly limited their use. Clinical trials have shown that 20% of ipilimumab-treated melanoma patients survive at least three years, and a subset survive for 10 years or longer. Ipilimumab remains one of the most impactful drugs for these patients; however, the number of patients who benefit from treatment with ipilimumab remains limited due to its toxicity. Investigation of dose-response in two clinical trials of melanoma patients showed that higher doses of ipilimumab are likely to increase the proportion of patients who benefit; however, the increased dose also resulted in an unacceptable toxicity profile for most patients. In a Phase 2 trial of ipilimumab conducted by Bristol-Myers Squibb Company, a dose range of 0.3 mg/kg to 10 mg/kg was tested and efficacy was measured both by response rate and by clinical outcome. Both the response rate and median overall survival, or mOS, were higher at 10 mg/kg than at 3 mg/kg, with the 0.3 mg/kg dose determined as being ineffective. The rate of severe AEs was 25% at the 10 mg/kg dose, 7% at the 3 mg/kg dose and 0% at the ineffective dose of 0.3 mg/kg. Similarly, as shown in the table below, in a Phase 3 trial conducted by Bristol-Myers Squibb Company, mOS was higher at the 10 mg/kg dose but resulted in unacceptable toxicity for most patients. Therefore, we believe that achieving a three-fold increase in therapeutic index would be transformational.

#### High-Dose Ipilimumab Improved Survival but Resulted in Unacceptable Toxicity

Dose (mg/kg)	mOS (mo)	Adverse Events:
		Gr 3/4 irAEs / disconts. (%)
3	11.5	14 / 19
10	15.7	30 / 31

Ipilimumab has shown preliminary evidence of promising anti-tumor activity in a range of tumor types outside of its currently approved indications, but successful additional approvals have been limited due to its toxicity. For example, ipilimumab has been observed to be more active when combined with the anti-PD-1 antibody nivolumab. However, the combination of ipilimumab and nivolumab has been shown to cause a greatly increased rate of immune-related toxicity when compared to treatment with either ipilimumab or nivolumab as a monotherapy. Clinical results from patients who express high-affinity FcγR polymorphisms have shown improved responses to ipilimumab, but efforts to improve the potency of the antibody have been limited by perceived toxicity risk. There remains a critical need to develop safe and effective forms of anti-CTLA-4 mAbs that can achieve efficacious doses within the TME.

#### Our solution: XTX101

XTX101 is a tumor-selective anti-CTLA-4 mAb that is designed to improve upon the therapeutic index of existing anti-CTLA-4 therapies by overcoming potency and tolerability limitations. Our goal is to demonstrate an improved safety profile enabling higher anti-CTLA-4 exposure in the tumor that will result in increased efficacy. In preclinical studies, we have observed the following tolerability and activity profile of XTX-101:

- improved *in vivo* potency and the intra-tumoral PD effects of XTX101 are consistent with the improved potency being a result of the higher affinity binding to the target CTLA-4 and enhanced IgG1-Fc effector function, which further improves checkpoint inhibition and enhances antibody-dependent cellular cytotoxicity to deplete immune-suppressive Tregs in the TME;
- reduced peripheral immune activity due to masking of the CDR sequences; and
- activation by protease-dependent release of the masks, which acts selectively in the TME and minimizes toxicity associated with systemic immune activation.

XTX101 is designed to enhance the desirable features of an anti-CTLA-4 antibody while limiting known limitations of anti-CTLA-4 antibodies due to toxicity. We expect this combination of features to result in an increased therapeutic index.



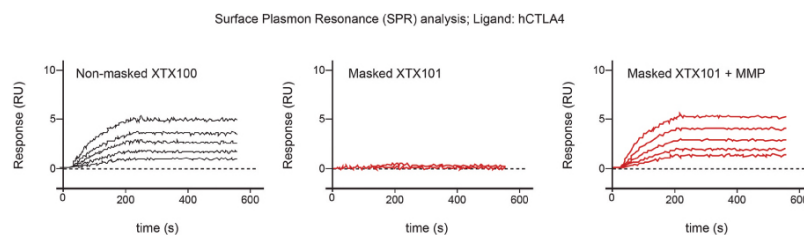
### Overview of preclinical studies and data

We have examined XTX101 in several preclinical and IND-enabling studies that we believe have demonstrated the potential for XTX101 to have an enhanced activity and an improved tolerability profile compared to ipilimumab. As summarized below, we believe that these studies collectively provide preclinical POC with an improved therapeutic index due to TME-dependent activation of XTX101 that, if replicated in clinical trials, could result in significant benefits to patients with a variety of different solid tumors.

- XTX101 showed tight control and full reliance on MMP activity for binding to CTLA-4 in an *in vitro* study using a sensitive surface plasmon resonance, or SPR, assay.
- XTX101 was activated by human tumors in a study of 82 tumor biopsies across a variety of solid tumors that demonstrated 67% overall activation.
- XTX101 demonstrated activity similar to an ipilimumab analog in *in vivo* mouse models of bladder cancer tumor growth. XTX101 dosed at 0.3 mg/kg and 1.0 mg/kg resulted in 2/8 CRs and 5/8 CRs, respectively.
- In the same mouse study, we observed that XTX101 induced an increase in CD8+ T cells within the tumor and a decrease in Tregs in the tumor, without increasing CD4+ T cells in the blood. The ipilimumab analog had less activity than XTX101 in the tumor but did show an increase in CD4+ T cells in the blood.
- In a separate mouse study, the combination of XTX101 and an anti-PD-1 antibody showed robust tumor growth inhibition in excess of either drug as a monotherapy, with minimal systemic toxicity.

We observed the dependency of XTX101 on proteolytic cleavage to achieve binding using an SPR assay, which measures on-rate and off-rate of antibody binding to the target protein, allowing an accurate assessment of binding. The data demonstrate tight control and full reliance on MMP activity for binding of XTX101 to CTLA-4. The figure below shows protease-dependent activation of XTX101 *in vitro* using a biophysical assay. The left panel shows the binding of non-masked anti-CTLA-4 mAb, XTX100, to CTLA-4 coated on the SPR chip. Binding is indicated by a positive response measured in resonance units, or RUs. The middle panel shows minimal binding of unmasked anti-CTLA-4 mAb, XTX101, under the same conditions. The right panels show that treatment of masked XTX101 with MMPs restores binding to CTLA-4 in the SPR assay.

#### After Proteolytic Activation, Full Binding was Restored to XTX101

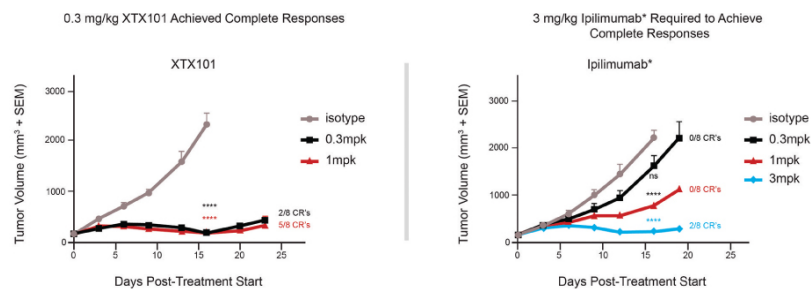


We further demonstrated the capacity of human tumors to activate XTX101 in a protease-dependent manner using fresh tumor biopsies obtained from human patients and assessing their ability to activate XTX101 and thus restore binding to CTLA-4. XTX101 activation was observed for all tumor types evaluated. The total number of tumors tested was 82, and overall, 67% demonstrated activation of XTX101. The proportion of tumors for each cancer indication that demonstrated protease-dependent activation of XTX101 was:

Cancer Indication	n	Proportion (%) Demonstrating Protease-Dependent Activation of XTX101
Colon	11	91%
Breast	4	75%
Melanoma	7	71%
Bladder	5	80%
NSCLC	9	67%
Liver	5	60%
Ovarian	11	64%
RCC	30	57%

In *in vivo* models of bladder cancer tumor growth, XTX101 showed activity superior to that of an ipilimumab analog. MB49 cells were inoculated subcutaneously into C57BL/6-huCTLA-4 mice. When tumors reached approximately 150 mm<sup>3</sup>, mice received a single IV dose of each molecule at the doses indicated in the figure. These were 0.3 mg/kg or 1.0 mg/kg for XTX101 and 0.3 mg/kg, 1.0 mg/kg and 3.0 mg/kg for the ipilimumab analog, which we produced to conduct these studies. As shown in the figure below, we observed that XTX101 was more clinically active than the ipilimumab analog in the MB49 bladder cancer model. The left panel shows the effect of different doses of XTX101 on tumor growth, with two CRs achieved with a dose of 0.3 mg/kg and five CRs achieved with a dose of 1.0 mg/kg. The right panel shows the effect of different doses of the ipilimumab analog on tumor growth, with no CRs achieved with a dose of either 0.3 or 1.0 mg/kg. XTX101 exhibited superior tumor growth inhibition compared to the ipilimumab analog. A dose of 3 mg/kg of the ipilimumab analog was required to achieve similar activity and CR rate as XTX101 at 0.3 mg/kg, suggesting XTX101 has 10-fold higher potency than the ipilimumab analog.

#### Clinical Activity of XTX101 and Ipilimumab Analog in MB49 Tumor Mice

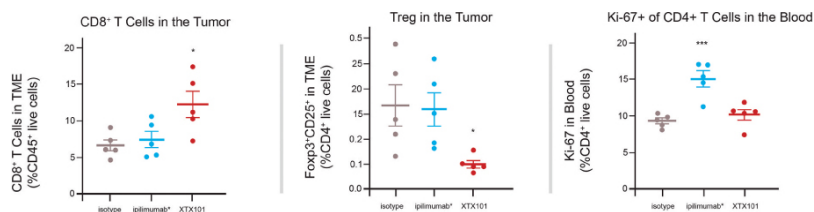


\* Ipilimumab: ipilimumab analog that comprises a monoclonal antibody of identical amino acid sequence to ipilimumab that was produced at Xilio for research purposes

A Two-way ANOVA with Bonferroni's multiple comparisons post-test was performed to determine the statistical significance of treatment vs. isotype on day 16 (ns not significant; \*P<0.05; \*\*P<0.01; \*\*\*P<0.001; \*\*\*\*P<0.0001).

Further, as shown in the below figure, we observed that XTX101 induced an increase in CD8<sup>+</sup> T cells within the tumor, as shown in the left panel, and a decrease in the immune suppressive regulatory T cells, or Tregs, in the tumor, as shown in the middle panel. We observed that XTX101 did not promote an increase in CD4<sup>+</sup> T cells in the blood even at 3 mg/kg despite achieving complete responses at 0.3 mg/kg, suggesting tumor-selective activity of XTX101. We further observed that the ipilimumab analog promoted an increase in CD4<sup>+</sup> T cells in the blood at the 3 mg/kg dose required for efficient tumor growth inhibition in the blood, as shown in the right panel, demonstrating that the ipilimumab analog was active outside of the TME at doses required for activity.

**XTX101 Demonstrated Tumor-Selective PD and Treg Depletion**

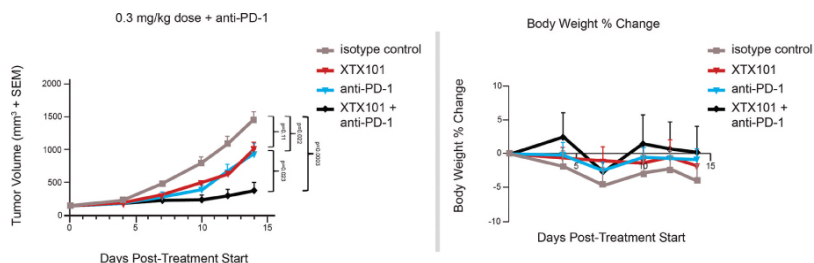


\* ipilimumab analog that comprises a monoclonal antibody of identical amino acid sequence to ipilimumab that was produced at Xilio for research purposes  
 A two-way ANOVA with Dunnett's multiple comparisons post-test was performed to determine the statistical significance of treatment versus isotype control (\*P<0.05; \*\*P<0.01; \*\*\*P<0.001; \*\*\*\*P<0.0001).

The effect of the combination of XTX101 with anti-PD-1 antibody was evaluated in another preclinical study in which female C57BL/6-huCTLA4 mice, were implanted subcutaneously with MC38 cells. When the tumors reached approximately 150 mm<sup>3</sup> on day zero, the mice were intravenously administered 10mg/kg isotype control antibody, 0.3 mg/kg of XTX101 or 10mg/kg anti-PD-1.

As shown in the figure and table below, XTX101 and the anti-PD-1 antibody each showed limited activity as a monotherapy. However, the combination of XTX101 with the anti-PD-1 antibody showed robust tumor growth inhibition of 82%, including two out of eight animals achieving a CR. Minimal toxicity was observed in animals treated with either monotherapy or the combination, suggesting that XTX101 can be effectively combined with an anti-PD-1 antibody without enhanced toxicity.

**Single Dose Combination of XTX101 with anti-muPD-1 Enhanced Tumor Growth Inhibition with No Impact on Body Weight**



	Isotype Control	XTX101 0.3 mg/kg	Anti-PD-1 10 mg/kg	XTX101 0.3 mg/kg + anti-PD-1
<b>% TGI Day 14</b>	N/A	34	40	82
<b>P values</b>	N/A	0.022	0.11	0.0003
<b>Complete responses</b>	0/8	0/8	0/8	2/8

In GLP toxicology studies completed in NHPs, XTX101 exhibited a highest non-severely toxic dose, or HNSTD, of 3 mg/kg in NHP supporting the targeted clinical dose for XTX101 in patients of 1-3 mg/kg. In addition, the half-life for XTX101 was 92 to 208 hours in single dose studies in NHPs, supporting the potential for dosing once every three weeks.

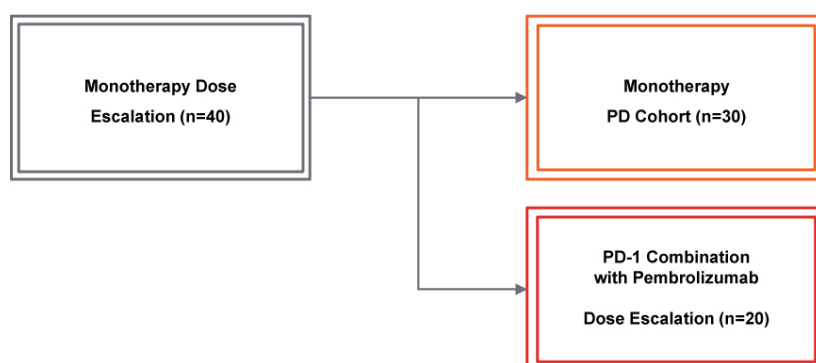
**Clinical Development Plan**

In June 2021, the FDA cleared our IND to evaluate XTX101 in patients with advanced solid tumors, and we recently initiated our Phase 1/2 dose-escalation trial, which is designed to evaluate XTX101 in the monotherapy

and anti-PD-1 combination settings. This trial is a first-in-human, multi-center, open-label trial that will evaluate the safety and tolerability of XTX101 at the target dose in patients with advanced solid tumors who have progressed after receiving the standard-of-care treatment for their tumor, with the goal of establishing an RP2D both as a monotherapy and in combination with KEYTRUDA<sup>®</sup> (pembrolizumab), an anti-PD-1. In addition, we intend to evaluate evidence of anti-CTLA-4 PD activity in tumors from patients treated with XTX101. To assess the anti-tumor PD effects, patients who have progressed on anti-PD-L1 treatment but have not received prior ipilimumab will be treated with XTX101, then patients will have tumor biopsies to assess PD. We expect to present preliminary data for the monotherapy cohort for this trial in the middle of 2022 and preliminary data for the combination cohort for this trial in the second half of 2022. Based on the observed improved activity of XTX101 over current CTLA-4-directed therapeutics, such as an ipilimumab analog, its higher affinity binding to the target CTLA-4 and enhanced Fc-driven effector function, we also plan to look for early signs of anti-tumor activity in this initial trial.

Finally, we intend to evaluate XTX101 in combination with pembrolizumab at a full XTX101 dosage in patients who have not previously been treated with an anti-PD-L1. The objective is to show that XTX101 dosage is not limited by the dose-limiting toxicities observed with ipilimumab when ipilimumab is given in combination with anti-PD-1 agents. Our planned registration-enabling program for XTX101 will require randomized trials in combination with an anti-PD-1. Given the significant size of the opportunity, including in melanoma, NSCLC and prostate cancer, and the trials required to fully develop XTX101, we plan to seek potential strategic collaboration opportunities to develop XTX101. The following illustrates the design of Phase 1 of our Phase 1/2 trial of XTX101:

#### XTX101 Phase 1 Trial to Establish POC with Monotherapy and Safety in Combination with anti-PD-1



#### Metastatic Melanoma Overview

Melanoma of the skin is the nineteenth most commonly occurring cancer in the United States with approximately 100,000 new cases and approximately 7,200 deaths projected in 2021. The rates of melanoma have been rising rapidly and treatment is a major driver of healthcare costs. Although the five-year survival rate from diagnosis for early melanoma is over 95%, this drops to approximately 25% for metastatic melanoma that has spread to distant sites. Despite the FDA approval of 12 new melanoma therapies since 2011, treatment options for patients with stage III and IV melanoma remains suboptimal. After surgical resection, adjuvant treatment with a targeted therapy or a checkpoint inhibitor may be initiated. For patients with metastatic disease, treatments that target PD-1 and CTLA-4 have grown to dominate the treatment landscape. In about 50% of patients with melanoma, the *BRAF* gene is mutated and a combination of a BRAF inhibitor and a MEK inhibitor—for example, dabrafenib plus trametinib—might be used; however, patients will ultimately receive I-O treatment. These new therapies have resulted in significant improvements of relapse-free survival in patients with melanoma, and in some cases, an improvement in overall survival is observed. However, many patients still relapse and suffer disease progression, indicating there is an urgent need for additional therapeutic options.

Melanoma has the strongest rationale for combining an anti-PD-1 with an anti-CTLA-4, as clinical trials have demonstrated the combination of nivolumab (an anti-PD-1 agent) and ipilimumab (an anti-CTLA-4 agent) demonstrated statistically significant improvements in overall response rate, or ORR, and a strong trend for improved survival compared to nivolumab monotherapy. Despite the strong efficacy data seen with the combination of an anti-PD-1 agent and an anti-CTLA-4 agent, monotherapy treatment with an anti-PD-1 remains a common standard of care in the treatment of melanoma patients due to the severe toxicity associated with combination treatment. Assuming a successful Phase 1 dose escalation trial for XTX101, we plan to pursue a clinical trial of XTX101 in combination with pembrolizumab in melanoma patients who have previously not been treated with an anti-PD-1 to demonstrate clinical proof-of-concept in this patient population.

#### ***Potential Future Indications***

We intend to explore XTX101 in additional solid tumor indications for which ipilimumab has demonstrated meaningful activity. In addition to melanoma, ipilimumab has approved indications in RCC, NSCLC, MSI-hi solid tumors and hepatocellular cancer. However, the toxicity of ipilimumab presents a key challenge to wider adoption.

Prostate cancer and small cell lung cancer are additional potential indications for treatment with a novel anti-CTLA-4 therapy. In clinical trials for ipilimumab in these indications, Phase 2 data showed promising data for treatment with an anti-CTLA-4 agent. While the Phase 3 trials for ipilimumab in these indications did not achieve their primary endpoints, data from these trials indicated the potential for treatment with an improved anti-CTLA-4 molecule.

#### ***Cytokine Programs***

The major focus in our cytokine programs is the development of cytokines with exemplary clinical activity and tolerability. These programs include XTX202, our optimized IL-2 product candidate, XTX301, our optimized IL-12 product candidate, and XTX401, our optimized IL-15 product candidate.

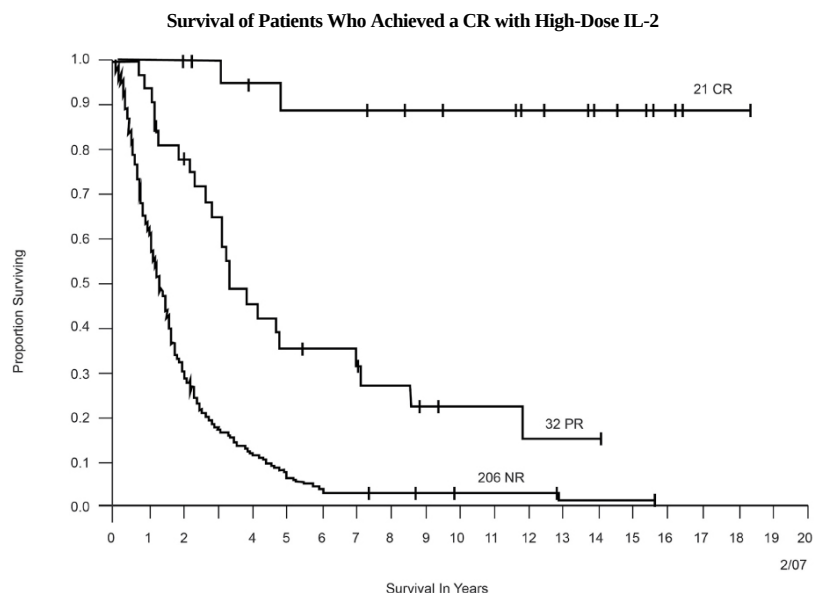
#### ***XTX202, our tumor-selective IL-2 product candidate***

XTX202 is a modified form of IL-2 that is masked with a protein domain to prevent binding activity until cleaved off by TME-associated proteases. In October 2021, the FDA cleared our IND for XTX202. We anticipate initiating a Phase 1/2 trial to evaluate XTX202 in multiple solid tumor types in the first quarter of 2022, and we expect to present preliminary Phase 1 data in the second half of 2022. Once we have established an RP2D, we plan to initiate Phase 2 trials evaluating XTX202 as monotherapy in patients with RCC and melanoma, and subject to the results of these trials, we anticipate initiating multiple registration-enabling clinical trials for XTX202 in combination with standard of care agents in a range of indications.

#### ***Background on IL-2***

##### ***IL-2: Extensive clinical evidence of the promise and limitations of cytokines***

As shown in the figure below, which is a Kaplan-Meier survival analysis, high-dose IL-2 resulted in long-term survival in a subset of patients who had achieved a CR. We believe that patients who develop a CR when treated with high-dose IL-2 are highly likely to achieve a long-term durable response or cure.



***Historical use of IL-2 in cancer has been accompanied by severe toxicity***

The power of IL-2 is promising, but it has been greatly reduced due to toxicities. When administered locally, IL-2 has been shown to be clinically active and well-tolerated, shrinking local cancerous lesions and reducing malignant effusions. However, when administered systemically, treatment with IL-2 has been shown to induce severe toxicities, including vascular leak syndrome, or VLS, myocardial infarction, or heart attack, acute renal failure and immune-mediated neuropathy. This toxicity profile greatly limits its current use.

In order to localize IL-2, many groups have tried linking IL-2 to tumor-targeting mAbs, creating fusion proteins. These fusion proteins can accumulate in a tumor and create locally high IL-2 concentrations. However, the use of cytokine fusion proteins has not prevented systemic toxicity because the long circulating half-life of antibody fusions and unexpected cleavage of IL-2 from the antibody domain has contributed to high systemic IL-2 levels in some cases.

The toxicities associated with early IL-2 therapies, such as aldesleukin, are hypothesized to be associated in part with binding and signaling through the high affinity  $\alpha\beta$  IL-2-receptor on immune cells or vascular endothelial cells. In addition, the  $\alpha\beta$  IL-2-receptor is expressed at high levels on Tregs, which act to inhibit the immune response, whereas the intermediate affinity  $\beta\gamma$  IL-2 receptor is expressed on cells that promote immune response including CD8+ T cells and NK cells.

Modeling of IL-2 activity in preclinical animal tumor models and evaluation of dosage and dose-frequency data from patients has suggested that IL-2 has a steep dose-activity curve, with reduced exposure impacting both efficacy and toxicity. IL-2 anti-tumor activity and toxicity are both dependent on the amount of IL-2 administered. Therefore, in order to provide the greatest benefit to patients, the goal is to engineer a form of IL-2 that can minimize systemic effects while harnessing and directing activity to the TME.

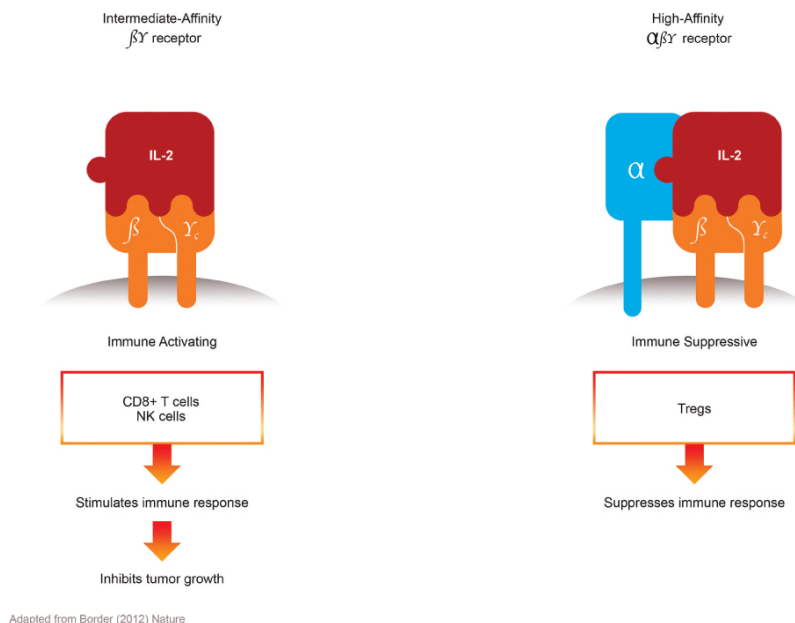
***Rationale for non-alpha IL-2***

The application of cytokines to treat cancer fits with the role these signaling molecules have evolved to play in the body. Many key cytokines, including IL-2, regulate the immune system, and it is now recognized that there are immune stimulatory cytokines, immune suppressive cytokines and cytokines that have multiple activities

on different target cell types. IL-2 is a master regulator of immune responses and has been investigated extensively as a potential anti-cancer immunotherapy. IL-2 supports the function, survival and proliferation of T cells, including the subset of T cells known as CD8+ T cells that are most closely linked to anti-tumor immunity.

As shown in the figure below, the activities of IL-2 are driven by two classes of receptor complexes, the high-affinity  $\alpha\beta\gamma$  receptor that contains three subunits and the intermediate-affinity  $\beta\gamma$  receptor that lacks the  $\alpha$ -chain, a receptor known as CD25. The receptor complexes are differentially expressed on different cell types. The immune activating CD8+ T cells and natural killer, or NK, cells primarily express  $\beta\gamma$ , and Tregs express the  $\alpha\beta\gamma$  receptor. A wild-type IL-2 binds preferentially to the  $\alpha\beta\gamma$  receptor and therefore strongly stimulates Tregs, thus limiting the immune activating effect of wild-type IL-2. Moreover, the presence of the high affinity  $\alpha\beta\gamma$  receptor on Tregs allows these cells to act as scavengers of wild-type IL-2 and reduce the availability of wild-type IL-2 for stimulation of CD8+ or NK cells. By contrast, non- $\alpha$  IL-2 does not bind to the  $\alpha$  receptor component of the  $\alpha\beta\gamma$  complex and therefore binds equally to CD8+, NK and Treg cells. This shifts the balance of activity for non- $\alpha$  IL-2 away from Tregs and allows more effective activation of CD8+ and NK cells. In addition, non- $\alpha$  IL-2 is not subject to scavenging by Tregs since it does not bind to the  $\alpha\beta\gamma$  high affinity receptor and only binds to the intermediate affinity  $\beta\gamma$  receptor. By not being subject to scavenging by Tregs, the levels of non- $\alpha$  IL-2 are not reduced. Therefore, non- $\alpha$  IL-2 is available at higher concentrations to activate signaling through the  $\beta\gamma$  receptor on CD8+ and NK cells. As a result, non- $\alpha$  IL-2 is expected to be more effective at promoting anti-tumor immune response and thus inhibiting tumor growth than a wild-type IL-2.

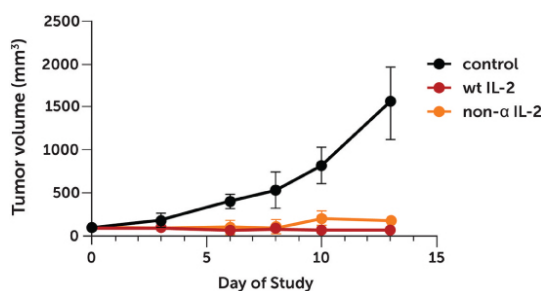
#### Avoiding IL-2 Receptor $\alpha$ Reduces Immune Suppression and Supports Immune Activation



Our preclinical data have demonstrated that non- $\alpha$  IL-2 achieved at least the same degree of tumor growth inhibition in mice as a wild-type IL-2, as shown in the figure below. We compared the ability of non- $\alpha$  IL-2 and wild-type IL-2 to inhibit the growth of established MC38 colon cancer tumors in mice. Mice received 2 mg/kg of either non- $\alpha$  IL-2 or wild-type IL-2 three times per week and equivalent levels of tumor growth control were achieved. Notably, this preclinical study compared non-masked versions of wild-type IL-2 and

non- $\alpha$  IL-2, which resulted in mortality for a subset of mice after the sixth day in both groups. In addition to these preclinical data, recent results from a third party's clinical trial showed objective responses in patients dosed with a systemic non- $\alpha$  IL-2 molecule.

#### Similar Tumor Growth Inhibition for Wild Type and Non-Alpha IL-2 in Mice with MC38 Colon Cancer



#### Our Solution: XTX202

The critical challenge in the development of IL-2 therapeutics is to improve patient tolerability without reducing efficacy. Deploying the key structural components of our GPS platform, we have designed XTX202 with three key features designed to overcome this: (1) avoidance of binding to CD25, the IL-2 $\alpha$  receptor subunit, in order to reduce the activation of Treg cells that inhibit immune response, while maintaining effective activation of CD8<sup>+</sup> and NK cells that promote an anti-tumor immune response; (2) overcoming the short circulating half-life of the native cytokine using the half-life extension domain; and (3) a removable protease-cleavable protein mask that prevents XTX202 from binding and signaling until the mask is removed by the MMPs that are preferentially active within the TME.

These key features are intended to ensure that XTX202 is released and activated preferentially within the TME, where it has been designed to bind to lymphocytes. In the TME, XTX202 is designed to be unmasked and to bind to the IL-2  $\beta\gamma$  receptors that are abundantly expressed on CD8<sup>+</sup> T effector cells and NK cells, activating these cells. Locally activated T cells and NK cells have potent anti-tumor cytotoxic activity. The unmasked XTX202 is then rapidly internalized by these lymphocytes, shortening the systemic half-life of the unmasked molecule.

#### Overview of preclinical studies and data

We have undertaken extensive preclinical studies to demonstrate the two key characteristics of XTX202: (1) anti-tumor activity and (2) minimal or no evidence of systemic toxicity. In order to assess this, we compared XTX202 to both aldesleukin and a non-masked version of the molecule, which we refer to as XTX200, a non- $\alpha$  IL-2 with the same half-life extension domain feature but no mask to block IL-2 function systemically. XTX200 also serves as a surrogate for other non- $\alpha$  IL-2 molecules currently being investigated by others. This was done to assess the activity of our masking technology and compare XTX202 against high-dose IL-2. We believe that these studies collectively provide preclinical POC with an improved therapeutic index due to TME-dependent activation of XTX202 that, if replicated in clinical trials, could result in significant benefits to patients with a variety of cancer types. The key findings of our XTX202 preclinical studies are as follows:

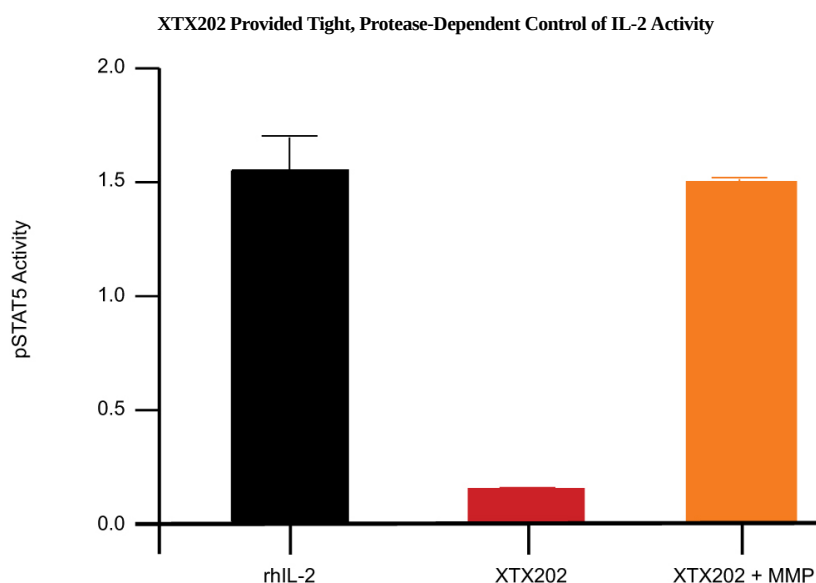
- XTX202 did not signal through the IL-2 receptor when masked, and MMP activation of XTX202 restored full potency of IL-2 signaling in *in vitro* assays illustrating the tight, protease-dependent control of IL-2 activity conferred by XTX202;
- XTX202 activated an immune response in the tumor but not in peripheral organs, demonstrating geographically selective tumor pharmacodynamic, or PD, activity *in vivo* in mice;
- XTX202 matched the tumor growth inhibition activity of XTX200 and aldesleukin, without activation of immune response outside of the TME, thereby avoiding the systemic toxicity (VLS and enlargement



of the spleen, or splenomegaly), body weight loss and mortality in mice that were associated with the doses of XTX200 or aldesleukin required for tumor growth inhibition;

- XTX202 was well-tolerated in NHPs with no evidence of systemic immune activation outside of the tumor or VLS, whereas XTX200 induced both; and
- XTX202 exhibited a half-life of greater than one week in NHPs, compared to a half-life of less than 0.5 days for XTX200. Based on these data, we believe that circulating levels of masked XTX202 can be achieved with clinically meaningful concentrations of activated (unmasked) XTX202 within tumors and that any unmasked cytokine of XTX202 that reaches the systemic circulation will be rapidly cleared with minimal systemic AEs.

We evaluated the masking feature in XTX202 using a sensitive, *in vitro* assay that measures IL-2 activity. In our study, we monitored the IL-2 dependent activation of the JAK-STAT pathway, a chain of interactions between proteins in a cell involved in immunity, using HEK-Blue IL-2 reporter cells that expressed IL-2R $\alpha\beta\gamma$ , JAK and STAT genes. Avoiding activation, or phosphorylation, of STAT5, called pSTAT5, would suggest potential for reduced systemic toxicity. In our study, pSTAT5 activity is expressed as absorbance at 625 nanometers. As shown in the figure below, reporter cells were incubated with recombinant human IL-2, or rhIL-2, XTX202, or XTX202 that was incubated with an MMP. Both the positive control rhIL-2 and MMP-treated XTX202 activated the reporter cell line at a dose of 50 pM and induced pSTAT5 activity. Conversely, XTX202 induced minimal pSTAT5 activity at 57 pM. Based on these data, we concluded that masked XTX202 did not signal through IL-2 receptor and that MMP activation of XTX202 restored full potency of IL-2 signaling.

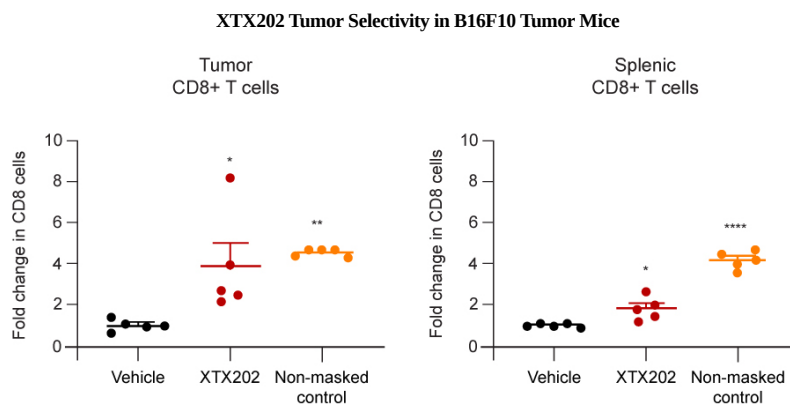


HEK-Blue IL-2 reporter cells engineered by stable transfection of IL-2R $\alpha,\beta,\gamma$ , JAK, and STAT genes to monitor IL-2 dependent activation of JAK-STAT pathway. Activation of STAT5 leads to production of secreted embryonic alkaline phosphatase. pSTAT5 activity expressed as absorbance at 625 nanometers. Data shown are for recombinant human IL-12 (rhIL-2) and XTX202+MMP assayed at 50 pM and XTX202 assayed at 57 pM.

We then used syngeneic mouse tumor models to evaluate the activity of XTX202 *in vivo*. In these mouse tumor models, we observed tumor-selective PD effects of XTX202 and robust monotherapy activity against established tumors. Importantly, these experiments were conducted with the XTX202 and not mouse surrogates.

We examined established B16F10 melanoma tumors for PD evidence of XTX202 activity and compared the results to activity seen systemically. These data were compared to the non-masked control XTX200 and the vehicle-treated negative controls. Animals received 10 mg/kg of XTX202 or 0.36 mg/kg of XTX200, the non-masked control, on day zero and day three.

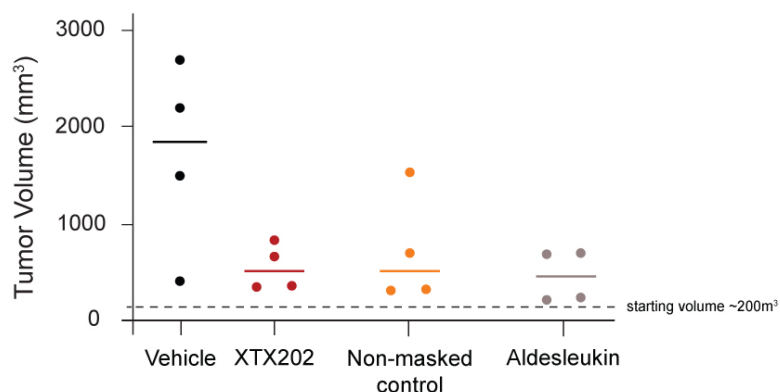
The presence of CD8+ T cells was used as a measure of immune activation. The figure below depicts activity in B16F10 melanoma tumors on the left and in the spleen, a peripheral immune organ, on the right. We observed that both XTX202 and XTX200 induced an increase in CD8+ T cells in the tumor compared to vehicle control, while, in the spleen, expansion observed following XTX202 was limited compared to non-masked XTX200, which induced a significant expansion of splenic CD8+ T cells.



Female C57BL/6 mice were subcutaneously injected with a half million B16F10 cells. Animals were treated with 0.36mpk XTX200 or 10mpk XTX202 on days 0 and 3 when tumors reached 250mm<sup>3</sup>. Flow cytometry was performed on day 5. A one-way ANOVA Dunnett multiple comparison post-test was performed to determine the statistical significance of treatment vs vehicle. (\*P<0.05; \*\*P<0.01; \*\*\*P<0.001; \*\*\*\*P<0.0001).

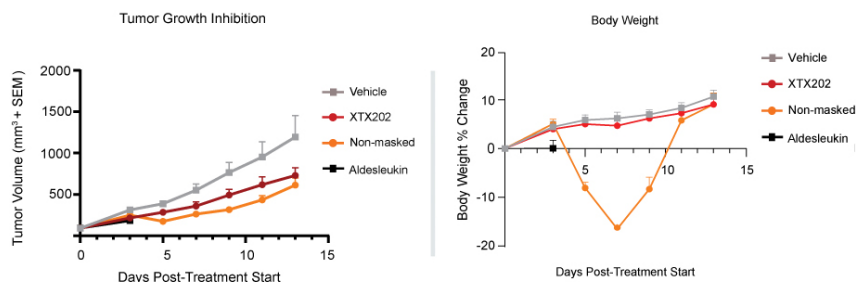
In a separate experiment, we compared the ability of XTX202, XTX200 and aldesleukin to inhibit growth of established MC38 colon cancer tumors in mice. Prior experiments had demonstrated that 0.5 mg/kg of XTX200 dosed once every three days, or Q3D, and 3 mg/kg of aldesleukin dosed twice per day, or BID, for five days were the maximum tolerated doses, or MTDs, in mice for these molecules. Previous experiments had also demonstrated that XTX202 was well-tolerated in mice at doses up to at least 25 mg/kg dosed Q3D, with reversible, mild decrease in body weight and no mortality, and no decrease in body weight at 10 mg/kg. In this study, on day zero, animals received 10 mg/kg of XTX202, a well-tolerated dose for this molecule, or XTX200 at an MTD of 0.5 mg/kg on day zero and day three, or aldesleukin at an MTD dose of 3 mg/kg BID on days zero through four. As shown in the below figure, on day 5 post-dose, a well-tolerated dose of XTX202 demonstrated comparable activity to aldesleukin or non-masked IL-2 at their MTDs.

### XTX202 Tumor Growth Inhibition Was Comparable to Non-Masked Control XTX200 and Aldesleukin



We also conducted a preclinical study in a second syngeneic tumor model, using mice bearing established MB49 bladder cancer tumors. On day zero, mice received 2 mg/kg of XTX202, or 0.4 mg/kg of systemically active non-masked XTX200 every two days. Aldesleukin was given twice daily at 3 mg/kg for three days. As a result of the removal of one mouse from a study cohort due to mortality or unacceptable body weight loss, the tumor progression curve for that cohort has been censored. As shown in the left panel in the figure below, a well-tolerated dose of 2 mg/kg of XTX202 achieved similar activity to the non-masked IL-2 at its MTD of 0.4 mg/kg. As shown in the right panel, XTX202 at 2 mg/kg had no observed effect on weight gain compared to animals that received vehicle control. By contrast, 0.4 mg/kg of the non-masked molecule led to significant weight loss. The dose of aldesleukin required to match XTX202 activity was not tolerated in this study and resulted in animal mortality by day five. The tumor growth inhibition observed with the 2 mg/kg dose of XTX202 was comparable to the activity of the non-masked engineered IL-2 surrogate at its MTD, but body weight loss and mortality were seen in the aldesleukin group and activity could not be determined effectively.

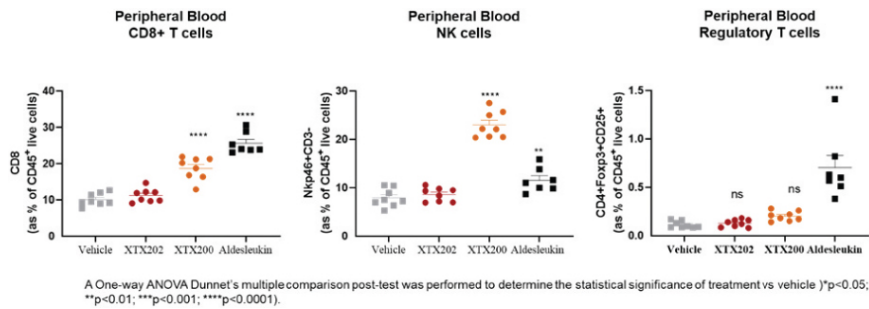
#### Effects of XTX202 on Tumor Growth Inhibition and Body Weight in MB49 Tumor Mice



TGI was measured on day 13 and a One-way ANOVA Dunnett's multiple comparison post-test was performed on day 13 to determine statistical significance of treatment vs vehicle (\*P<0.05; \*\*P<0.01; \*\*\*P<0.001; \*\*\*\*P<0.0001).

In the same MB49 tumor study, in animals in which effective tumor growth inhibition was observed, blood samples were collected on day five from all surviving animals. These samples were evaluated for changes in immune cell populations in the blood by fluorescent activated cell sorting. XTX202 did not cause an increase in circulating CD8+ T cells, NK cells or Tregs. In contrast, XTX200 caused an increase in circulating CD8+ and NK cells, but no effect on Tregs, and aldesleukin had variable but stimulatory effects on all three cell types.

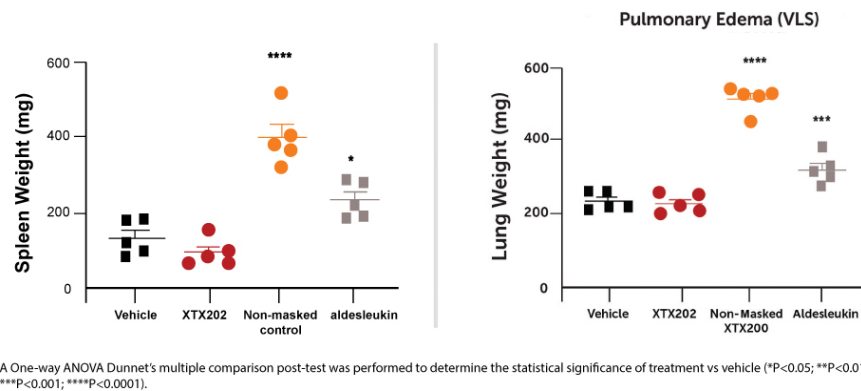
### XTX202 Did Not Affect Immune Cells in the Periphery



These preclinical data collectively support the hypothesis that the activity of XTX202 is limited to the TME. The lack of expansion of the CD8<sup>+</sup> T cell, NK cell or Treg cell populations in the peripheral blood suggest that XTX202 achieved tumor growth inhibition while exhibiting no evidence of activity outside of the TME. By contrast, the non-masked molecule XTX200 and aldesleukin both showed significant increases in immune cell populations in the blood, demonstrating that these molecules are both active outside of the TME. This conclusion was further supported by measurements of animal health in the bladder cancer tumor model.

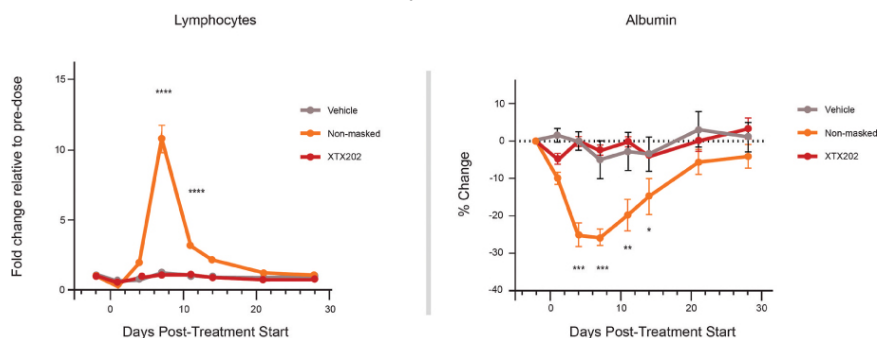
As shown in the figure below, we did not observe XTX202 to induce splenomegaly, while significant increases in spleen size were observed in animals treated with either XTX200 or aldesleukin. Similarly, XTX202 did not lead to VLS in treated mice as demonstrated by the lack of pulmonary edema, shown in the right panel. By contrast, XTX200 or aldesleukin administration resulted in vascular leak and pulmonary edema.

### Splenomegaly and Pulmonary Edema Observed in Mice with Aldesleukin and Non-Masked XTX200, But Not with XTX202



Tolerability of XTX202 and XTX200 was also evaluated in NHP studies. All animals were administered a single intravenous, or IV, infusion of either XTX200 at 0.73 mg/kg or a masked analog of XTX202 at 1.0 mg/kg. Peripheral lymphocyte counts and serum albumin levels were monitored for four weeks post-administration. The data show that at a molar equivalent dose, the masked molecule does not result in lymphocytosis or hypoalbuminemia that is induced by the unmasked version of the same non-alpha molecule (XTX200).

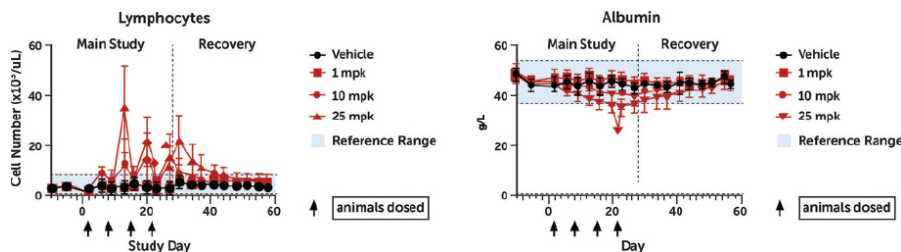
### XTX202 Overcame Toxicity of Non-Masked XTX200 in NHPs



NHPs administered a single intravenous infusion: non-masked control at 0.73 mg/kg and a masked analog of XTX202 at equimolar dose of 1.0 mg/kg. A repeated measurement two-way ANOVA with Bonferroni's multiple comparison correction was performed to determine the statistical significance of treatment versus vehicle (\*P<0.05; \*\*P<0.01; \*\*\*P<0.001; \*\*\*\*P<0.0001).

XTX202 was evaluated in a repeat-dose GLP toxicology study in NHPs. The study evaluated vehicle and 1, 10 and 25 mg/kg doses of XTX202 given once weekly intravenously. As shown in the figure below, we observed dose dependent lymphocyte expansion following administration of XTX202, with the 1 mg/kg group showing no systemic expansion. These results were further supported by analysis of circulating albumin a decrease in serum albumin levels is an indication of VLS. Serum albumin remained within the normal range for the 1 mg/kg and 10 mg/kg dosing groups, indicating no systematic expansion occurred and demonstrating minimal or no systemic toxicity for XTX202 in those dosing groups. The results from this repeat-dose GLP toxicology study in NHPs demonstrated that XTX202 was well-tolerated with the highest non-severely toxic dose, or HNSTD, equal to 10 mg/kg when administered once per week for four weeks.

### XTX202 Toxicology in a GLP NHP Study Demonstrated Favorable Tolerability



The circulating half-life and PK properties of masked XTX202 and non-masked control cytokine were evaluated in a preliminary NHP study. Drug levels were measured with a custom enzyme-linked immunosorbent assay following a single IV infusion of 1 mg/kg of XTX202 or the molar equivalent of XTX200 at 0.7 mg/kg. PK parameters were calculated using a non-compartmental analysis. As shown in the table below, XTX202 exhibited a half-life of 5.3 days, whereas the half-life of the non-masked XTX200 was shorter at 1 day. The half-life extension moiety and the decrease in target-mediated disposition due to masking of IL-2 result in the longer half-life of XTX202. These data support starting with a dosing schedule of intravenous administration once every three weeks.

### Measured PK Parameters in Single Dose NHP Study

	Half Life (Days)	C <sub>max</sub> (ug/mL)	AUC <sub>inf</sub> (hr*ug/mL)
XTX202 (masked at 1 mg/kg)	5.3	28.7	1,270
XTX200 (unmasked at 0.73 mg/kg)	1.0	16.7	423

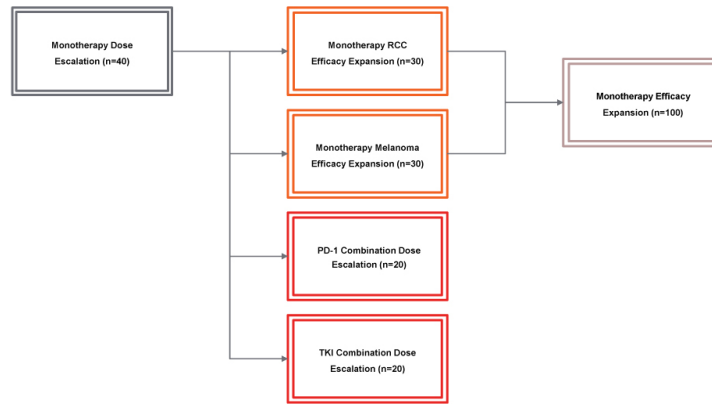
Based on these data, we believe that circulating levels of masked XTX202 can be achieved with clinically meaningful concentrations of activated (unmasked) XTX202 within tumors and that any unmasked cytokine of XTX202 that reaches systemic circulation will be rapidly cleared with no systemic AEs.

We believe that our preclinical data support clinical development of XTX202 for the treatment of a range of cancer indications. In head-to-head preclinical tumor model studies, XTX202 achieved activity with 2-10mg/kg dosed Q3D comparable to aldesleukin at 3 mg/kg dosed BID. XTX202 was well-tolerated up to 10 mg/kg repeated administration over four weeks in NHPs, whereas the published MTD for aldesleukin in NHPs is 25 ug/kg daily for 28 days. Therefore, in our preclinical studies, XTX202 demonstrated a calculated improvement in overall therapeutic index compared to aldesleukin. While there can be no assurances that these results will be replicated in clinical trials, we believe these preclinical data demonstrate XTX202 has the potential to deliver high concentrations of IL-2 selectively to the tumor while minimizing peripheral toxicity. We expect this to allow dose-escalation to achieve intra-tumor cytokine levels high enough to induce local T cell and NK cell activation, proliferation and anti-tumor cytotoxicity.

#### Clinical Development Plan

In October 2021, the FDA cleared our IND for XTX202. We anticipate initiating a Phase 1/2 dose-escalation monotherapy trial to evaluate XTX202 in patients with solid tumors who have previously received an anti-PD(L)1 treatment regimen in the first quarter of 2022, and we expect to present preliminary Phase 1 data in the second half of 2022. The objective of this dose-escalation trial will be to determine an RP2D. We aim to establish safety POC by showing XTX202 has the ability to achieve target exposure at or below the RP2D without leading to significant AEs in patients. An additional objective is to show efficacy POC with anti-tumor activity at the RP2D by evaluating intra-tumor PD activity for evidence of IL-2 activity in the tumor. Assuming we successfully complete the Phase 1 trial and determine the RP2D for XTX202, we plan to initiate Phase 2 expansion cohorts with XTX202 monotherapy to determine the objective response rate, including CRs, in RCC and melanoma patients who previously received an anti-PD-1 treatment regimen. Subject to the response rate observed in the POC phase, we plan to initiate nonrandomized monotherapy trials with the potential for accelerated approval. In addition, we plan to initiate one or more additional Phase 1 trials aimed at demonstrating that we can combine XTX202 with other agents such as anti-PD-1 agents or tyrosine kinase inhibitors, or TKIs, which are small molecules that are designed to inhibit the activation of enzymes called tyrosine kinases that are drivers of certain cancers and proliferative disorders. If we are able to generate objective responses in patients with RCC or melanoma, we plan to initiate registration-enabling clinical trials in the indication or indications relevant to these patients. Beyond RCC and melanoma, we also plan to explore the potential of XTX202 in other solid tumor indications. The figure below shows our anticipated Phase 1/2 trial design for XTX202 in RCC, melanoma and other indications to evaluate its activity as both a monotherapy and in combination with other agents.

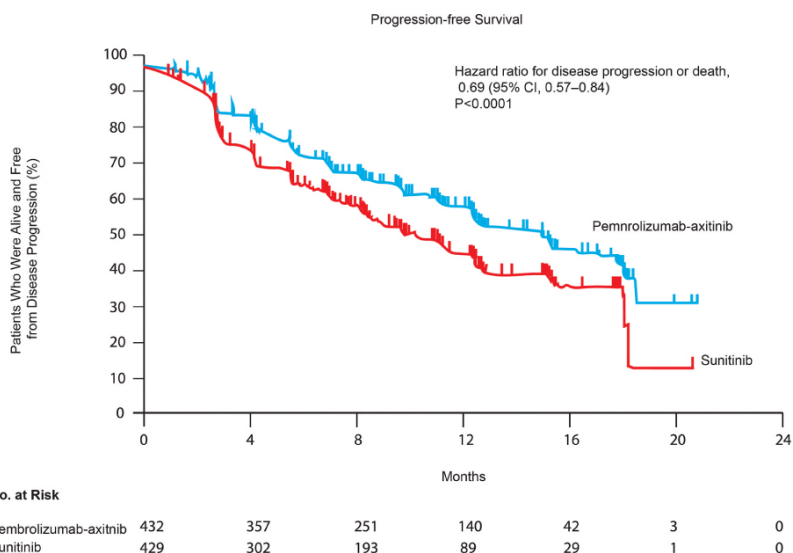
**XTX202: Planned Phase 1/2 Trial Designed to Establish POC with Potential to Trigger Accelerated Approval Cohort for Monotherapy**



***RCC Overview***

RCC accounts for 2% of global cancer diagnoses and deaths annually, and the global incidence is increasing. Most cases of RCC are discovered incidentally on imaging, and approximately one-third of cases are advanced or metastatic at the time of diagnosis. Survival is highly dependent on the stage at diagnosis, with metastatic disease having a five-year survival rate of only 12%. RCC is the ninth most common cancer in the United States, with approximately 74,000 new cases and approximately 15,000 deaths projected in 2020. The landscape of therapeutic options has rapidly evolved such that the treatment goal, even in the metastatic setting, is to cure patients or ensure their long-term survival. Systemic frontline therapy options now include combinations of checkpoint inhibitors and TKIs such as pembrolizumab and axitinib, nivolumab and ipilimumab, and avelumab and axitinib. Despite these recent approvals, there remains a pressing need to identify new therapeutic targets and effective treatments since the substantial majority of patients continue to experience relapses and progression and ultimately succumb to their cancer. As a result, cures are not commonly achieved, as in the example of pembrolizumab combined with vascular endothelial growth factor receptor-targeted TKI. As shown in the figure below, most patients with metastatic RCC will eventually relapse even after treatment with sunitinib or pembrolizumab and axitinib as the median time to progression-free survival, or PFS, is 11.1 months and 15.1 months, respectively.

**Pembrolizumab+Axitinib Improved Overall Survival in Metastatic RCC,  
but Most Patients Still Relapsed Within 18 Months**



In contrast to the TKI and anti-PD-1 combination shown above, IL-2-directed therapy offers the opportunity for durable responses and cures, as was seen in the historical aldesleukin treatment data. Only 15% of RCC patients treated with high-dose IL-2 obtained an objective response but approximately half of these, or 7% of all patients treated, achieved a CR. The unique feature of high-dose IL-2 is that approximately 90% of patients with RCC who achieved a CR remained permanently disease-free and off-treatment.

Assuming a successful Phase 1/2 dose escalation trial, we plan to pursue a rapid POC clinical trial in RCC, an indication in which recombinant IL-2 produces positive clinical responses, but in which its use is limited due to toxicity. We believe XTX202's characteristics can overcome these limitations and address the unmet need in RCC.

***Treatment of Metastatic Melanoma with IL-2 Agents***

In clinical trials evaluating recombinant IL-2 for the treatment of metastatic melanoma, recombinant IL-2 produced an ORR of 16% and produced CRs and functional cures in 6% of patients. However, use of recombinant IL-2 has been limited by dose-limiting toxicities.

While treatments that target PD-1 and CTLA-4 have grown to dominate the metastatic melanoma treatment landscape, many patients do not respond, and relapses are common, with a five-year survival rate of around 50% in metastatic melanoma. We believe that a safe and effective form of IL-2 may improve initial response rates and clinical outcomes when added to checkpoint inhibitor therapy and may maintain responses in patients with melanoma who have relapsed from checkpoint inhibitor treatment. Importantly, high-dose IL-2 has shown a response rate, including CRs in patients with melanoma despite those patients having progressed on prior treatment with an anti-PD-1 showing the potential for IL-2 mechanism of action-based efficacy in patients who have previously been treated with an anti-PD-1.

Similar to our development plan for RCC, assuming a successful Phase 1/2 dose escalation trial, we plan to rapidly pursue a POC clinical trial in melanoma, where recombinant IL-2 has demonstrated clinical responses but has been historically limited due to toxicity. Our clinical development plan includes the evaluation of patients with melanoma who have previously been treated with an anti-PD-1 to demonstrate clinical POC.



**Potential Future Indications**

Beyond RCC and melanoma, we intend to explore XTX202 in additional solid tumor indications for which there is a significant unmet medical need, and for which IL-2 has previously demonstrated utility. These indications may include non-small cell lung cancer, or NSCLC, head and neck squamous cell cancer, or HNSCC, bladder cancer and ovarian cancer.

Aldesleukin has been studied in a broad range of tumor types. Dose-limiting toxicities have prevented most patients with cancer from receiving the high doses necessary for systemic efficacy. Multiple clinical trials have evaluated IL-2 where local treatment is possible. In these trials, IL-2 has induced objective responses in patients with ovarian cancer when administered in the peritoneum, in patients with bladder cancer when administered directly into the bladder and in patients with NSCLC and mesothelioma when administered into the pleural cavity. In patients with resectable HNSCC, perioperative administration of IL-2 into the lymph nodes near the tumor resulted in increased survival in a randomized trial. These data provide POC that multiple tumor types are likely sensitive to IL-2 if high levels of exposure can be obtained.

**XTX301, our half-life extended, tumor-selective IL-12 therapeutic**

XTX301 is an engineered form of IL-12 that is masked with a protein domain to prevent binding activity until cleaved off by TME-associated proteases. In preclinical studies, we observed that XTX301 was activated in a protease-dependent manner, including in preclinical studies using human tumor samples *ex vivo* showing XTX301 was able to cleave the masking domain. XTX301 is currently in IND-enabling studies, and we plan to submit an IND to the FDA in the second half of 2022 for evaluation in patients with solid tumors.

**Background on IL-12**

IL-12 is a potent, pro-inflammatory cytokine produced by antigen-presenting cells such as dendritic cells, macrophages and B cells. IL-12 has two subunits, p35 and p40, that together form a heterodimer protein. IL-12 is a key cytokine in the body's response to pathogen infection, sending a signal to T cells, among others. IL-12 interacts with diverse immune cells, including CD4+ T cells, CD8+ T cells, NK cells, monocytes and macrophages. IL-12's broad range of pro-inflammatory functions suggests that it could potentially be highly potent in controlling anti-cancer immunity. IL-12 has been shown in preclinical studies to induce robust anti-tumor effects against many types of malignancies and it has been tested against multiple human cancers in clinical trials. Recombinant human IL-12 has been evaluated in clinical trials, and anti-tumor efficacy was observed in a small number of patients across a range of tumor types.

Unfortunately, systemic IL-12 therapy causes severe AEs in patients with cancer. Life-threatening liver damage, called hepatotoxicity, was identified during the early development of previous IL-12 therapies, which severely limited the dose of IL-12 that could be administered, and further trials to evaluate efficacy were therefore conducted at sub-optimal doses due to the toxicity. In an early Phase 2 trial of recombinant IL-12, the MTD of 0.5 µg/kg per day caused severe side effects in 70% of patients, or 12 of 17 patients, of whom two died from gastrointestinal bleeding and multi-organ failure, respectively. The severe toxicities indicated that recombinant IL-12 could not be used systemically due to rapid increases in the cytokines IFN-γ, TNF-α and IL-6 that caused a cytokine storm syndrome characterized by systemic inflammation, multi-organ dysfunction and immune cytopenias. Efforts to overcome these systemic liabilities include alternate drug delivery approaches such as intra-tumoral administration of IL-12 encoding DNA vaccines or administration of oncolytic viruses expressing IL-12. Despite activity in individual lesions, cancer is a systemic disease that cannot be cured with local therapy once it has reached an advanced stage. Therefore, to unleash the potential for IL-12 in the majority of patients with advanced or metastatic cancer, an IL-12 that can be administered systemically but act locally at the tumor site is needed.

The failure of systemic IL-12 to induce meaningful anti-tumor efficacy is generally attributed to tolerability, which limits the dose and, as a result, the ability to reach therapeutic concentrations within the TME. Therefore, maximizing the amount of IL-12 that reaches the tumor, while minimizing exposure of non-tumor tissue, may be critical for a safe and effective anti-tumor response. Tumor-selective activity is therefore a desirable therapeutic profile.

**Our solution: XTX301**

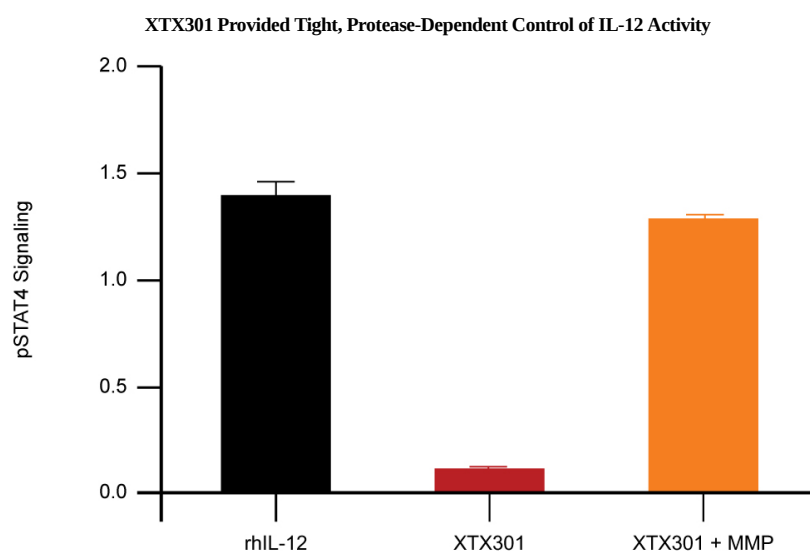
Our goal for our IL-12 program is to create a tumor-selective, extended half-life IL-12 therapeutic with minimal peripheral effects. We are using our GPS platform and proprietary approach to achieve systemic delivery of tumor-selective IL-12, which we believe would have potential as a monotherapy and in combination with other therapies.

The design of our masked IL-12 cytokine molecule is closely related to that of our masked IL-2 cytokine molecule, which illustrates the flexibility and robustness of our cytokine engineering approach. The masking domain is designed to prevent binding to cell-surface expressed high affinity IL-12 receptor, unless the linker containing the protease site is cleaved by proteases preferentially active in the TME. The half-life extension domain is designed to overcome the short circulating half-life of the native cytokine and the overall molecule is designed to enhance the efficiency of manufacturing.

**Overview of preclinical studies and data**

We have observed tumor-selective activity of XTX301 in mouse models after systemic administration. Anti-tumor activity was observed in syngeneic mouse models using murinized surrogate molecules. In order to achieve anti-tumor activity *in vivo*, we designed XTX301 to optimize its circulating half-life while maintaining masking so that little or no activity was observed in non-tumor tissue. We observed minimal effects outside the tumor in mouse models. In a preliminary repeat-dose NHP study, XTX301 was observed to be well-tolerated at doses at least 50-fold higher than a non-masked human IL-12 control.

As shown in the figure below, XTX301 did not signal through IL-12 receptors when masked, and MMP activation of XTX301 restored full potency of IL-12 signaling. Reporter cells that express the IL-12 receptors were incubated with recombinant IL-12, XTX301 alone or XTX301 that was incubated with an MMP. We observed that both the positive control rhIL-12 and MMP-treated XTX301 activated the reporter cell line and induced phosphorylation of STAT4. XTX301 induced minimal phospho-STAT4 activity.

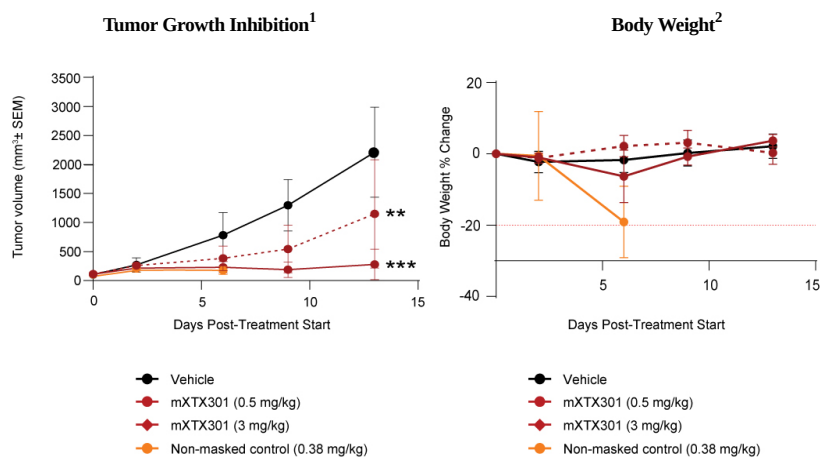


HEK-Blue IL-12 reporter cells engineered by stable transfection of IL-12R $\beta$ 1, IL-12R $\beta$ 2, JAK, and STAT genes to monitor IL-12 dependent activation of JAK-STAT pathway. Activation of STAT4 leads to production of secreted embryonic alkaline phosphatase. pSTAT4 activity expressed as absorbance at 625 nanometers. Data shown are for recombinant human IL-12 (rhIL-12) and XTX301+MMP assayed at 228 pM and XTX301 assayed at 143 pM.

In preclinical models with mXTX301, a mouse surrogate for XTX301, tumor growth inhibition was observed in melanoma and bladder cancer models without adverse events. Mouse studies were conducted with a surrogate for XTX301 that included mouse sequences for IL-12 and the masking domain in place of the human sequences present in XTX301 but had the same half-life extension domain and protease linker. A mouse surrogate was used as human IL-12 does not activate mouse IL-12 receptors. Mice bearing established tumors received a single dose of 0.38 mg/kg of the non-masked mouse IL-12 cytokine or 0.5 mg/kg or 3.0 mg/kg of mXTX301, and tumor growth was measured over time.

As shown in the figure below, we observed that mXTX301 controlled MC38 tumor growth at a tolerable single dose of 0.5 mg/kg or 3 mg/kg compared to the vehicle control. mXTX301 achieved tumor regressions in a subset of the animals dosed. Similarly, we observed that the non-masked IL-12 control resulted in tumor growth inhibition. However, a tolerated dose of the non-masked control was not established in this study, and the dose required for tumor growth inhibition resulted in animal mortality by day six. These data suggest that mXTX301 is highly active and can achieve tumor regressions in mice at a tolerable dose. *In vivo* activity was further confirmed in additional syngeneic mouse tumor models, including MB49 and B16F10.

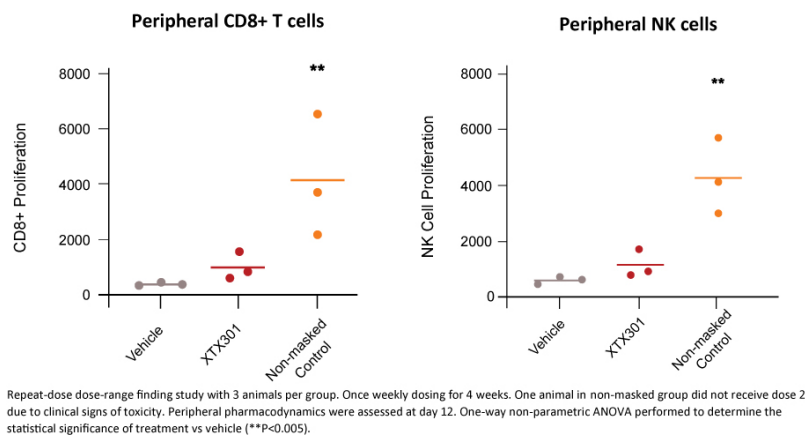
#### Mouse Surrogate Masked IL-12, mXTX301, is Active and Well-Tolerated *In Vivo*



1. A one-way ANOVA Dunnett's multiple comparison post-test was performed to determine the statistical significance of treatment vs vehicle (\*P<0.05; \*\*P<0.01; \*\*\*P<0.001; \*\*\*\*P<0.0001).

2. Mice bearing established tumors received a single dose of either vehicle, 0.4 mg/kg of the non-masked mouse IL-12 cytokine or 3 mg/kg of mXTX301.

In NHPs, XTX301 and XTX300 (unmasked) were dosed once weekly intravenously for four doses. XTX301 was dosed at 3 mg/kg for the first dose and then dropped to 1.5 mg/kg for the subsequent three doses. XTX301 showed minimal systemic activity and was observed to be well-tolerated at doses up to 1.5 mg/kg. The XTX301 dose was at least 50-fold higher than the MTD of XTX300, which was less than 0.03 mg/kg in this preclinical study. As shown in the figures below, in NHPs, the non-masked control demonstrated peripheral activation of CD8<sup>+</sup> T cells and NK cells, whereas XTX301 was similar to vehicle with minimal activation of CD8<sup>+</sup> T cells and NK cells.



#### Current Status and Clinical Development Plan

Based on these data, we are currently advancing XTX301 through IND-enabling studies including cell line development and manufacturing, and a non-clinical toxicology program to support our planned IND submission and progression into clinical development. We plan to submit an IND to the FDA in the second half of 2022. Our clinical development plan for XTX301 will focus initially on monotherapy dose-escalation in patients with solid tumors. Following an assessment of anti-tumor effect as a monotherapy in selected tumor types, we also plan to explore the potential to combine XTX301 with other agents prior to initiation of registration-enabling clinical trials.

#### XTX401, our half-life extended, tumor-selective IL-15 therapeutic

XTX401 is a modified form of IL-15 that is masked with a protein domain designed to prevent binding activity until cleaved off by TME-associated proteases. In preclinical studies, we observed that XTX401 was activated in a protease-dependent manner, including in preclinical studies using human tumor samples *ex vivo* showing XTX401 was able to cleave the masking domain, clinically active and well-tolerated. XTX401 is currently in preclinical development undergoing IND-enabling studies.

#### Background on IL-15

IL-15 is a cytokine that primarily stimulates the proliferation and cytotoxic functions of CD8+ T cells and NK cells that can enhance anti-tumor responses. IL-15 activities have some similarities to IL-2, and the receptors bound by the two cytokines partly overlap: IL-15 signals through a receptor complex composed of the IL-2/IL-15 receptor  $\beta$  chain, or CD122, and the common gamma chain  $\gamma$ C, or CD132. IL-15 signaling induces the proliferation, survival and differentiation of T cells and NK cells, including CD8+ memory T cells that are believed to be critical for durable anti-tumor immunity.

The challenge associated with IL-15 as a potential therapeutic is that it has a short *in vivo* half-life and has shown considerable toxicity both in preclinical models and in patients. In NHPs, IL-15 has shown severe toxicity at higher doses, including weight loss and skin rash. In patients with cancer, severe toxicity was observed when NCI-rhIL-15 was dosed by continuous IV infusion, including a drug-related death. AEs included hypotension, thrombocytopenia, liver injury and high fever. More recent versions of IL-15 have caused grade 3 AEs, including lymphocytopenia, increased liver enzymes, anemia, diarrhea and peripheral edema, with minimal clinical activity reported. Much of the reported toxicity is associated with systemic activation and proliferation of NK cells; therefore, local administration has been tried with a half-life extended recombinant IL-15, which demonstrated objective responses in patients with bladder cancer in combination with the standard-of-care agents. The ability to induce local tumor regressions support that IL-15 activity in the TME can have therapeutic benefit provided that systemic toxicity can be avoided.

### Our solution: XTX401

For our IL-15 program, we have used our GPS platform to focus on improving potency, improving circulating half-life, ensuring local activity within the TME and showing tolerability. Key steps in engineering the masked cytokine included enhancing the affinity of the IL-15 cytokine binding to the IL-15  $\beta$  receptor, adding a half-life extension domain and applying our masking technology.

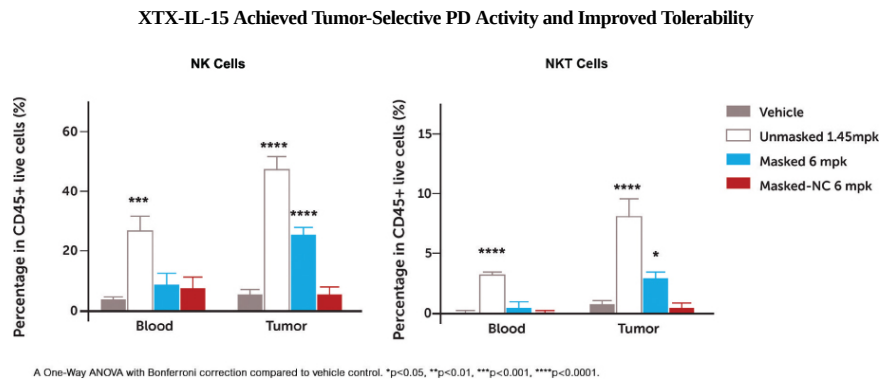
### Overview of preclinical studies and data

Our goal for the IL-15 program was to create a tumor-selective, extended half-life IL-15 therapeutic with minimal peripheral effects. We used XTX-IL-15, one of a series of masked, tumor-selective IL-15 molecules that were under investigation prior to selection of the final development candidate, XTX401, in the studies described below. In these *in vitro* studies, we observed successful masking and protease-dependent activation. We have also observed tumor-selective activation *in vivo* in a syngeneic mouse tumor model after systemic administration. In addition, we were able to achieve the desired circulating half-life improvement, with only minimal peripheral effects in mouse models.

IL-15 bioactivity *in vitro* was determined by measuring the IL-15-mediated STAT5 transcriptional activity in a HEK-Blue reporter assay as described above for IL-2 cell-based assays. Both the positive control rhIL-15 and MMP-treated XTX-IL-15 activated the reporter cell line and induced phosphorylation of STAT5. XTX-IL-15 induced little phospho-STAT5 activity.

To assess the tumor-selective activity of XTX-IL-15, mice bearing established B16F10 tumors were injected intravenously with a single dose of vehicle control, or non-masked IL-15, or XTX-IL-15, or a control version of the XTX-IL-15 that is not cleavable by proteases and therefore cannot be unmasked, or Masked-NC. Increased NK or natural killer T, or NKT, cells, cell numbers in the tumor or in the blood were used as a measure of IL-15 dependent immune activation. Animals received a single intravenous dose of 1.45 mg/kg non-masked IL-15, or 6 mg/kg XTX-IL-15, or 6 mg/kg of Masked-NC. Animals were sacrificed on day five, and NK and NKT cell numbers in the tumor and blood were measured.

As shown in the figure below, both the non-masked IL-15 and the XTX-IL-15 induced an increase in NK or NKT cells in the tumor, compared to vehicle control, but only non-masked IL-15 caused NK and NKT cells to expand in the blood outside of the TME. The Masked-NC control molecule did not promote activation of NK or NKT cells in the tumor or blood indicating that activation of NK and NKT cells in the tumor by the XTX-IL-15 is dependent upon protease activity in the TME. No body weight loss or increase in lung weight was observed in mice treated with XTX-IL-15 in this experiment.



### Current Status and Clinical Development Plan

Our IL-15 program is currently in preclinical development and we plan to evaluate this product in patients with solid tumors.

### ***Future Discovery and Development Plans***

We have prioritized efforts to develop novel cytokines and checkpoint inhibitors based on the therapeutic activity established in other clinical trials, while recognizing that their benefit has been historically hampered by issues of significant toxicity, poor bioavailability and, in the case of cytokines, a short half-life. By leveraging the insights and capabilities of our GPS platform, we aim to systematically create novel cytokines and checkpoint inhibitors that overcome these challenges in order to safely localize their potent activity to the TME.

A current focus for our discovery programs is the addition of tumor targeting to our GPS platform. Preliminary data from preclinical studies indicates the promise of this approach, as the addition of a targeting domain to a tumor-selective masked cytokine has demonstrated superior tumor growth inhibition and tumor-specific PD activity compared to the same masked cytokine without the targeting. In addition, in these preclinical studies the masked targeted cytokine has demonstrated superior safety compared to a non-masked version of the same targeted cytokine.

We intend to develop a number of additional product candidates using a range of tumor targeting approaches, with the goal of achieving a clinically meaningful improvement in their therapeutic index. In addition to the cytokines IL-2, IL-12 and IL-15, potential examples include IFN- $\alpha$ 2, IFN- $\gamma$ , IL-7, IL-10, IL-17A, IL-18, IL-21, IL-22, TNF- $\alpha$  and TNF- $\beta$ .

We plan to evaluate the opportunity for better tolerated and more efficacious combination therapies, using product candidates from across our portfolio with other cancer therapies, to increase the potential for curative regimens in oncology. Beyond oncology, we also plan to apply our GPS platform to other disease areas in which the immune system is dysregulated, such as in autoimmune and inflammatory diseases.

### **Competition**

We believe our novel and proprietary GPS platform and masking approach represent a meaningful competitive advantage in seeking to develop novel and highly effective treatments for cancer. However, the biotechnology and biopharmaceutical industries are characterized by rapid evolution of technologies and sharp competition and emphasis on intellectual property. Any product candidates that we successfully develop and commercialize will have to compete with existing therapies and new therapies that may become available in the future. While we believe that our technology, development experience and scientific knowledge provide us with competitive advantages, we face potential competition from many different sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions, governmental agencies and public and private research institutions.

Some of our competitors, either independently or with strategic partners, have substantially greater financial, technical and human resources than we do. In addition, our competitors may be more successful than we are in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approval for treatments and achieving widespread market acceptance. Merger and acquisition activity in the biotechnology and biopharmaceutical industries may result in resources being concentrated among a smaller number of our competitors. These companies also compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials and acquiring technologies complementary to, or necessary for, our programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

In addition to competitors specifically targeting anti-CTLA-4, IL-2, IL-12 and IL-15, we also face competition more broadly across the oncology market. The most common methods of treating patients with cancer are surgery, radiation and drug therapy, including chemotherapy, hormone therapy, biologic therapy, such as monoclonal and bispecific antibodies, immunotherapy, cell-based therapy and targeted therapy, or a combination of any such treatments. Beyond these treatments, we may also be subject to competition from additional modalities, including oncolytic viruses and cancer vaccines.

Our commercial opportunity could be substantially limited if our competitors develop and commercialize products that are more effective, safer, less toxic, more convenient or less expensive than products we may develop. In geographies that are critical to our commercial success, competitors may also obtain regulatory

approvals before us, resulting in our competitors building a strong market position in advance of the entry of our products. In addition, our ability to compete may be affected in many cases by insurers or other third-party payers seeking to encourage the use of other drugs. The key competitive factors affecting the success of any products we may develop are likely to be their efficacy, safety, convenience, price and availability of reimbursement.

#### ***Anti-CTLA-4 Therapies***

We are aware of a number of companies that are developing anti-CTLA-4 therapies as immunotherapies. With respect to XTX101, if approved, we may face competition from other anti-CTLA-4 based therapies. For example, Yervoy (ipilimumab), an anti-CTLA-4, is approved to treat melanoma, RCC and certain cancers of the large intestine. In addition, we are aware that several companies have anti-CTLA-4 programs in development, including Adagene, Inc., Agenus Inc., AstraZeneca plc, Bioatla, Inc., Bristol-Myers Squibb Company, CytomX Therapeutics, Inc. and MacroGenics, Inc.

#### ***Cytokine Programs***

With respect to our most advanced cytokine product candidate, XTX202, if approved, it may face competition from other IL-2 based cancer therapies. For example, Proleukin (aldesleukin), a synthetic protein very similar to IL-2, is approved and marketed for the treatment of metastatic RCC and melanoma. In addition, we are aware of several companies that have modified or low-dose IL-2 programs in development for the treatment of cancer, including Alkermes plc, Asher Biotherapeutics, Inc., Bright Peak Therapeutics, Nektar Therapeutics, Neoleukin Therapeutics, Inc., Roche AG, Sanofi, Synthekine, Inc., Trutino Biosciences Inc. and Werewolf Therapeutics, Inc.

With respect to XTX301, there are no approved IL-12 therapies currently on the market for the treatment of cancer; however, we are aware of several other companies that have modified IL-12 or intra-tumoral IL-12 delivery programs for the treatment of cancer in development, including DragonFly Therapeutics, Inc., EMD Serono, Inc., Philogen S.p.A., Werewolf Therapeutics, Inc., Xencor, Inc. and Zymeworks Inc.

With respect to XTX401, there are no approved IL-15 therapies currently on the market for the treatment of cancer; however, we are aware of several other companies that have IL-15 based cancer therapies that are in development, including Jiangsu Hengrui Medicine Company Ltd., Kadmon Holdings, Inc., NantWorks, LLC, Nektar Therapeutics, Sanofi and Xencor, Inc.

#### ***Intellectual Property***

We strive to protect our proprietary technology, inventions, improvements, and platforms, including composition of matter for product candidates, methods of use and processes for their manufacture that we believe are important to our business, including by obtaining, maintaining, defending and enforcing patent and other intellectual property rights for the foregoing in the United States and in certain foreign jurisdictions. We also rely on trade secrets and confidentiality agreements to protect our confidential information and know-how and other aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

Our success depends in part on our ability to:

- obtain, maintain, enforce and defend patent and other intellectual property rights for our commercially important technology, inventions and improvements;
- preserve the confidentiality of our trade secrets and other confidential information;
- obtain and maintain licenses to use and exploit intellectual property owned or controlled by third parties;
- operate without infringing, misappropriating or otherwise violating any valid and enforceable patents and other intellectual property rights of third parties; and
- defend against challenges and assertions by third parties challenging the validity or enforceability of our intellectual property rights, or our rights in our intellectual property, or asserting that the operation of our business infringes, misappropriates or otherwise violates their intellectual property rights.

**Patent portfolio**

As of September 30, 2021, we own, co-own or exclusively license 11 patent application families related to our business, including three pending Patent Cooperation Treaty, or PCT, patent applications, six pending United States applications, two issued patents, and 78 pending foreign applications in Europe, Japan, China, Australia, Brazil, Canada, Eurasia, Hong Kong, Indonesia, Israel, India, South Korea, Mexico, Malaysia, New Zealand, the Philippines, Saudi Arabia, Singapore, South Africa and Taiwan. In addition, we own eight U.S. provisional patent applications within the priority year. Our owned, co-owned or exclusively in-licensed patent applications cover various aspects of our programs and technology, including composition of matter and method of use as further described below. Any U.S. or foreign patents issued from national stage filings of our owned, co-owned, or exclusively in-licensed PCT patent applications and any U.S. patents issued from non-provisional applications we may file in connection with our provisional patent applications would be scheduled to expire on various dates from 2037 through 2042, without taking into account any possible patent term adjustments or extensions and assuming payment of all appropriate maintenance, renewal, annuity and other governmental fees.

*GPS Platform*

Our proprietary engineering platform enables geographically precise solutions, which we refer to as GPS, that can effect tumor-selective immunotherapy while minimizing systemic toxicity. By masking biological agents such as cytokines and antibodies, our GPS platform can be used to decouple therapeutic effects from toxicity for treating different cancers. We own one patent family covering the GPS platform in the cytokine space, including two pending U.S. patent applications and corresponding foreign applications in Europe, Japan, Australia, Brazil, Canada, China, Eurasia, Indonesia, Israel, India, South Korea, Mexico, Malaysia, New Zealand, the Philippines, Saudi Arabia, Singapore and South Africa. We exclusively license two patent families relating to the GPS platform technology and our cytokine and antibody programs. One of the two patent families is exclusively in-licensed in the oncology field from AskGene Pharma, Inc., or AskGene, and covers the GPS platform technology for cytokines. The statutory expiration date for these owned and exclusively licensed families ranges from 2039 to 2041, excluding any extension of patent term that may be available.

*Cytokine Program*

Our cytokine pipeline includes three different product candidates, XTX202 (our tumor-selective IL-2), XTX301 (our tumor-selective IL-12), and XTX401 (our tumor-selective IL-15).

IL-2 Program

With regard to the IL-2 program, we own two patent families relating to masked IL-2 cytokines, including XTX202, with composition of matter and methods of use claims. A first patent family includes three pending U.S. applications, one issued U.S. patent and corresponding foreign applications in Australia, Brazil, Canada, China, Eurasian Patent Organization, European Patent Office, Indonesia, Israel, India, Japan, Republic of Korea, Mexico, Malaysia, New Zealand, Philippines, Saudi Arabia, Singapore, and South Africa. A second patent family includes pending PCT and Taiwan applications. The patent family exclusively in-licensed in the oncology field from AskGene also relates to the IL-2 program. The statutory expiration date for these owned and exclusively in-licensed families ranges from 2039 to 2041, excluding any extension of patent term that may be available.

IL-12 Program

With regard to the IL-12 program, we own one patent family directed to different masked IL-12 constructs and sequences, including XTX301, with composition of matter and methods of use claims. This family is presently pending as PCT and Taiwan applications. The statutory expiration date for this family expires in 2041, excluding any extension of patent term that may be available.

IL-15 Program

With regard to the IL-15 program, we own one patent family directed to different masked IL-15 constructs and sequences, including XTX401, with composition of matter and methods of use claims. This family is



presently pending as PCT and Taiwan applications. The statutory expiration date for this family expires in 2041, excluding any extension of patent term that may be available.

#### *Checkpoint Inhibitor Program*

We own, co-own or exclusively in-license three patent families relating to masked anti-CTLA-4 antibody constructs and sequences, including XTX101, with composition of matter and methods of use claims. A first patent family is exclusively in-licensed from WuXi Biologics (Shanghai) Co., Ltd. and directed to anti-CTLA-4 antibodies. This family includes one pending U.S. application and one issued U.S. patent covering certain complementarity-determining regions and variable region sequences of anti-CTLA4 antibodies, including XTX101. Corresponding foreign applications are pending in Taiwan, Australia, Brazil, Canada, China, Eurasian Patent Organization, European Patent Office, Hong Kong, India, Indonesia, Israeli, Japan, Republic of Korea, Mexico, Malaysia, New Zealand, Philippines, Saudi Arabia, Singapore, and South Africa. A second patent family is owned and directed to anti-CTLA-4 antibodies with modifications that improve antibody-dependent cellular cytotoxicity and includes one pending U.S. application. Corresponding foreign applications are pending in Australia, Brazil, Canada, China, Eurasian Patent Organization, European Patent Office, India, Indonesia, Israeli, Japan, Republic of Korea, Mexico, Malaysia, New Zealand, Philippines, Saudi Arabia, Singapore, and South Africa. A third patent family is co-owned and directed to masked anti-CTLA-4 antibodies, which includes one pending U.S. application. Corresponding foreign applications are pending in Australia, Brazil, Canada, Eurasian Patent Organization, European Patent Office, India, Indonesia, Israeli, Japan, Republic of Korea, Mexico, Malaysia, New Zealand, Philippines, Saudi Arabia, Singapore, South Africa and Taiwan. In addition, we own two U.S. provisional applications directed to combination therapies using masked or unmasked anti-CTLA-4 antibodies, including XTX101 and PD-1/PD-L1 antibodies. The statutory expiration date for these owned, co-owned, and licensed families ranges from 2037 to 2042, excluding any extension of patent term that may be available.

#### *Trademark portfolio*

As of September 30, 2021, we own two federal trademark registrations for XILIO and XILIO THERAPEUTICS in the United States, and we have received notices of allowance for two additional federal trademark applications for XILIO and XILIO THERAPEUTICS in the United States.

#### *Patent prosecution*

A PCT patent application is not eligible to become an issued patent until, among other things, we file one or more national stage patent applications within 30 months, 31 months or 32 months of the PCT application's priority date, depending on the jurisdiction, in the countries in which we seek patent protection. If we do not timely file any national stage patent applications, we may lose our priority date with respect to our PCT patent application and any potential patent protection on the inventions disclosed in such PCT patent application. Moreover, a provisional patent application is not eligible to become an issued patent. A provisional patent application may serve as a priority filing for a non-provisional patent application, we file within 12 months of such provisional patent application. If we do not timely file non-provisional patent applications, we may lose our priority date with respect to our existing provisional patent applications and any potential patent protection on the inventions disclosed in our provisional patent applications.

While we intend to timely file additional provisional patent applications and national stage and non-provisional patent applications relating to our PCT patent applications, we cannot predict whether any of our patent applications will result in the issuance of patents. If we do not successfully obtain patent protection, or if the scope of the patent protection we or our licensors obtain with respect to our product candidates or technology, including our GPS, cytokine and antibody technologies is not sufficiently broad, we will be unable to prevent others from using our technology or from developing or commercializing technology and products similar or identical to ours or other similar competing products and technologies. Our ability to stop third parties from making, using, selling, offering to sell, importing or otherwise commercializing any of our technology, inventions and improvements, either directly or indirectly, will depend in part on our success in obtaining, maintaining, defending and enforcing patent claims that cover our technology, inventions and improvements.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. The protection afforded by a patent varies on a product-by-product basis, from jurisdiction-to-jurisdiction, and depends upon many factors, including the type of patent, the scope of its coverage, the

availability of patent term adjustments and regulatory-related patent term extensions, the availability of legal remedies in a particular jurisdiction and the validity and enforceability of the patent. Moreover, patent laws and related enforcement in various jurisdictions outside of the United States are uncertain and may not protect our rights to the same extent as the laws of the United States. Changes in the patent laws and rules, whether by legislation, judicial decisions or regulatory interpretation, in the United States and other jurisdictions may diminish our ability to protect our inventions and obtain, maintain, defend and enforce our patent rights, and could therefore affect the value of our business.

The area of patent and other intellectual property rights in biotechnology is evolving and has many risks and uncertainties, and third parties may have blocking patents and other intellectual property that could be used to prevent us from commercializing our platforms and product candidates and practicing our proprietary technology. Our patent rights may be challenged, narrowed, circumvented, invalidated or ruled unenforceable, which could limit our ability to stop third parties from marketing and commercializing related platforms or product candidates or limit the term of patents that cover our platforms and product candidates. In addition, the rights granted under any issued patents may not provide us with protection or competitive advantages against third parties with similar technology, and third parties may independently develop similar technologies. Moreover, because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that before any of our product candidates can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby reducing any competitive advantage provided by the patent. For this and other risks related to our proprietary technology, inventions, improvements, platforms and product candidates and intellectual property rights related to the foregoing, please see the section entitled “Risk Factors—Risks Related to our Intellectual Property.”

#### ***Patent term extensions***

The term of individual patents depends upon the laws of the jurisdictions in which they are obtained. In most jurisdictions in which we file, the patent term is 20 years from the earliest date of filing of the first non-provisional patent application to which the patent claims priority. However, the term of U.S. patents may be extended or adjusted for delays incurred due to compliance with FDA requirements or by delays encountered during prosecution that are caused by the United States Patent and Trademark Office, or the USPTO. For example, in the United States, a patent claiming a new biologic product, its method of use or its method of manufacture may be eligible for a limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, for up to five years beyond the normal expiration date of the patent. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product’s approval date in the United States. Only one patent applicable to an approved product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent for which extension is sought. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. For more information on patent term extensions, see “Business—Government Regulation and Product Approval—Patent Term Restoration and Extension”. In the future, if and when any product candidates we may develop receive FDA approval, we expect to apply for patent term extensions on issued patents covering those product candidates. Moreover, we intend to seek patent term adjustments and extensions for any of our issued patents in any jurisdiction where such adjustments and extensions are available. However, there is no guarantee that the applicable authorities, including the USPTO and FDA, will agree with our assessment of whether such adjustments and extensions should be granted, and even if granted, the length of such adjustments and extensions.

#### ***Trade secrets***

In addition to patent protection, we also rely on trade secrets, know-how, unpatented technology and other proprietary information to strengthen our competitive position. We take steps to protect and preserve our trade secrets and other confidential and proprietary information and prevent the unauthorized disclosure of the foregoing, including by entering into non-disclosure and invention assignment agreements with parties who have access to our trade secrets or other confidential and proprietary information, such as employees, consultants, outside scientific collaborators, contract research and manufacturing organizations, sponsored researchers and other advisors, at the commencement of their employment, consulting or other relationships with us. In addition, we take other appropriate precautions, such as maintaining physical security of our

premises and physical and electronic security of our information technology systems, to guard against any misappropriation or unauthorized disclosure of our trade secrets and other confidential and proprietary information by third parties.

Despite these efforts, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or other confidential or proprietary information. In addition, we cannot provide any assurances that all of the foregoing non-disclosure and invention assignment agreements have been duly executed, and any of the counterparties to such agreements may breach them and disclose our trade secrets and other confidential and proprietary information. Although we have confidence in the measures we take to protect and preserve our trade secrets and other confidential and proprietary information, they may be inadequate, our agreements or security measures may be breached, and we may not have adequate remedies for such breaches. Moreover, to the extent that our employees, contractors, consultants, collaborators and advisors use intellectual property owned by others in their work for us, disputes may arise as to our rights in any know-how or inventions arising out of such work. For more information, please see the section entitled “Risk Factors—Risks Related to our Intellectual Property.”

#### ***License agreements***

We are a party to license agreements under which we license patents, patent applications and other intellectual property from third parties. These licenses impose various diligence and financial payment obligations on us. We expect to continue to enter into these types of license agreements in the future. We consider the following license agreements to be material to our business.

#### ***Cross-License Agreement with AskGene***

In December 2020, our subsidiary, Xilio Development, entered into a cross-license agreement with AskGene Pharma, Inc., or AskGene, pursuant to which AskGene granted us certain exclusive licenses for AskGene patent rights related to non-antigen binding IL-2 products in the field of oncology and certain co-exclusive licenses for AskGene patent rights related to antigen binding IL-2 products in all fields. In addition, subject to the terms of the agreement and during the time period specified, AskGene granted us an option to certain exclusive licenses for AskGene patent rights related to non-antigen binding IL-15 products in the field of oncology and certain co-exclusive licenses for AskGene patent rights related to antigen binding IL-15 products in all fields. Under the agreement, AskGene retains rights to the AskGene patent rights in Singapore, Thailand, Malaysia, Vietnam, the People’s Republic of China, Taiwan, Macau, Hong Kong, Korea and India, which we refer to as the AskGene territory, and granted licenses to us for the AskGene patent rights worldwide, excluding the AskGene territory, which we refer to as the Xilio territory.

Under the agreement, we paid AskGene an upfront payment of \$6.0 million, and for each licensed product, we are obligated to pay AskGene up to \$13.0 million in the aggregate upon the achievement of specified regulatory milestones. If we exercise our option for the IL-15 licenses during the option period, we will be obligated to pay AskGene a \$4.0 million option exercise fee. In addition, subject to specified conditions, for any IL-2 licensed product, we are obligated to pay AskGene percentage royalties in the mid-single digits on aggregate annual net sales of IL-2 licensed products in the Xilio territory during the applicable royalty term, and if we exercise our option for AskGene’s IL-15 patent rights, then for any IL-15 licensed product, we are obligated to pay AskGene percentage royalties in the low single digits on aggregate annual net sales of IL-15 licensed products in the Xilio territory during the applicable royalty term.

During the term of the agreement, AskGene has agreed not to exploit the following in the field of oncology in the Xilio territory: (i) any non-antigen binding IL-2 product comprised of specified masking technology, and (ii) if we exercise our option for AskGene’s IL-15 patent rights, any non-antigen binding IL-15 product comprised of specified masking technology.

In addition, under the agreement, we granted a non-exclusive, royalty-free, non-transferable, worldwide license to AskGene for specified Xilio patent rights related to non-antigen binding IL-2 products in the field of immunology and for specified Xilio patent rights related to antigen binding IL-2 products in all fields. In addition, subject to the terms of the agreement and during the time period specified, we granted AskGene an option to obtain an exclusive, royalty-bearing, non-transferable, worldwide license for specified Xilio patent rights related to non-antigen binding IL-2 products in the field of immunology and an option to obtain a

co-exclusive, royalty-bearing, non-transferable, worldwide license for specified Xilio patent rights related to antigen binding IL-2 products in all fields. If AskGene exercises its option, the parties would negotiate and enter into a license agreement, and AskGene would be obligated to pay us up to \$17.0 million in aggregate upfront and milestone payments for each licensed product. In addition, subject to specified conditions, for any IL-2 licensed product, AskGene would be obligated to pay us percentage royalties in the low single digits on aggregate annual net sales of IL-2 licensed products during the applicable royalty term. Subject to the terms of the agreement and during the time period specified, we also granted AskGene an option to obtain a license in the AskGene territory to develop and commercialize our IL-2 licensed products and, if we exercise our option to the AskGene IL-15 licenses, our IL-15 licensed products. If AskGene exercises its option to develop and commercialize these licensed products in the AskGene territory, then the parties will negotiate and enter into a license agreement for AskGene's exclusive development and commercialization of such products in the AskGene territory, and AskGene would be obligated to pay us percentage royalties in the mid-single digits on aggregate annual net sales of such licensed products in the AskGene territory.

Subject to the terms of the agreement, each party's obligation to make royalty payments is subject to adjustment in specified circumstances and extends with respect to a licensed product in a country upon the first commercial sale of such licensed product in such country and ending upon the latest of (i) the expiration of the last valid claim of any licensed patent rights in such country that cover such licensed product, (ii) the expiration of regulatory exclusivity, if any, for such licensed product in such country, and (iii) for a specified time period following first commercial sale of such licensed product in such country.

The agreement continues on a product-by-product and country-by-country basis until the expiration of the applicable royalty term in each country, at which time the agreement expires with respect to such product in such country, and the licensed party receives a perpetual, irrevocable, fully-paid and royalty-free license to the licensed patent rights in such country. Either party has the right to terminate the agreement if the other party materially breaches the agreement and fails to cure such breach within specified cure periods or in the event the other party becomes insolvent or files for bankruptcy. Upon any termination, other than the expiration of the agreement with respect to a particular product in a particular country, the licenses granted by each party will terminate and neither party will have the right to practice the other party's patent rights.

***Amended and Restated Exclusive License Agreement with City of Hope***

In August 2016, our subsidiary, Xilio Development, entered into an amended and restated exclusive license agreement with City of Hope pursuant to which City of Hope granted us an exclusive worldwide license to specified patent rights related to our anti-CTLA-4 monoclonal antibody program.

Under the agreement, we issued 24,019 common units to City of Hope. In addition, for the first three licensed products or licensed services to achieve specified development and regulatory milestones, we are obligated to pay City of Hope up to \$10.3 million in the aggregate per licensed product or licensed service. Subject to specified conditions, we are obligated to pay City of Hope tiered royalties in the low single digits on aggregate annual net sales of licensed products or licensed services on a country-by-country basis until the expiration of the last-to-expire patent or patent application licensed from City of Hope covering the applicable licensed product or licensed service in such country. We are also obligated to pay City of Hope a portion of any consideration we receive for the grant of sublicenses under the agreement ranging from a low to mid double-digit percentage of such consideration, subject to specified conditions under that agreement at the time that we grant any such sublicense. In addition, we are obligated to pay \$0.5 million to City of Hope in connection with the consummation of the offering to which this prospectus relates.

The agreement continues on a country-by-country basis until the expiration of the last to expire licensed patent right in such country. We have the right to terminate the agreement for convenience at any time on 30 days' prior written notice to City of Hope. Either party has the right to terminate the agreement if the other party materially breaches the agreement and fails to cure such breach within specified cure periods. City of Hope may terminate the agreement if we or any of our affiliates or sublicensees bring specified patent challenges with respect to the licensed patents against City of Hope or if we assist others in bringing a patent challenge against City of Hope. However, instead of terminating as a result of a patent challenge, City of Hope may elect to increase our payment obligations by a specified percentage amount retroactive to the commencement of such patent challenge.

**CTLA-4 Monoclonal Antibody License Agreement with WuXi Biologics**

In September 2016, we entered into a license agreement with WuXi Biologics (Hong Kong) Limited, or WuXi Biologics, as amended in December 2017, pursuant to which WuXi Biologics granted us an exclusive worldwide license, including the rights to grant sublicenses through multiple tiers, to specified monoclonal antibodies and patent rights and know-how controlled by WuXi Biologics, including certain patent rights related to our anti-CTLA-4 mAb program.

For each product that incorporates a licensed antibody that has been modified using the rights licensed under the agreement, we are obligated to pay WuXi Biologics up to approximately \$25.8 million in the aggregate for specified development and regulatory milestones. In addition, subject to specified conditions, we are obligated to pay WuXi Biologics tiered royalties in the low to mid-single digits on aggregate annual worldwide net sales of licensed products during the applicable royalty term and subject to early expiration or adjustment in specified circumstances. Our obligation to make royalty payments extends with respect to a licensed product in a country until the later of the expiration of the last-to-expire patent or patent application licensed from WuXi Biologics covering the applicable licensed product in such country or for a specified time period following the first commercial sale of such licensed product. Subject to specified conditions under the agreement, we also have certain obligations to contract with WuXi Biologics for specified services related to the development or manufacture of licensed products.

Unless terminated earlier in accordance with its terms, the agreement will continue until the expiration of the last to expire royalty term for a licensed product. We have the right to terminate the agreement for convenience at any time upon at least 90 days' prior written notice to WuXi Biologics. Either party may terminate the agreement for the other party's uncured material breach. Other than following our termination for convenience or termination by WuXi Biologics for our material breach, upon the expiration of the applicable royalty term for a licensed product in a country, we will receive a paid-up and royalty free license to exploit such licensed product in such country.

**Manufacturing**

We currently contract with a third party to manufacture our product candidates for preclinical studies and our currently planned clinical trials, and we intend to do so with one or more third parties for future preclinical studies and clinical trials. We do not own or operate manufacturing facilities for the production of our product candidates, and we currently do not have plans to build our own clinical or commercial scale manufacturing capabilities. To date, our third-party manufacturer has met our manufacturing requirements. Our third-party manufacturer has agreed to provide clinical material meeting current good manufacturing practice, or cGMP, requirements and in sufficient quantities to meet anticipated clinical-trial demands. To meet our projected needs for commercial manufacturing, our current third-party manufacturer will need to increase its scale of production or we will need to secure one or more alternate suppliers. We believe that there are alternate manufacturers that could satisfy our anticipated clinical and commercial requirements, although we cannot be certain that identifying and establishing relationships with such manufacturers, if necessary, would not result in significant delay or material additional costs.

Although we expect to rely on one or more third-party contract manufacturers for the production of our current and future product candidates, we have personnel with extensive technical, manufacturing, analytical and quality experience in biotherapeutic protein manufacturing to oversee our contract manufacturer relationships. In collaboration with our third-party manufacturer, we have manufactured cGMP clinical supply for our planned clinical trial for our product candidate XTX101, and we are in the process of manufacturing cGMP clinical supply for our product candidate XTX202 using the same technical and manufacturing capability. As we scale clinical and commercial manufacturing for each of our product candidates, we intend to continue to expand and strengthen our network of contract manufacturers to include multiple suppliers globally.

**Government Regulation and Product Approval**

Government authorities in the United States, at the federal, state and local level, and in other countries and jurisdictions, including the European Union, or EU, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, packaging, storage, recordkeeping, labeling,

advertising, promotion, distribution, marketing, sales, pricing, reimbursement, post-approval monitoring and reporting, and import and export of pharmaceutical products. The processes for obtaining regulatory approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations and other regulatory authorities, require the expenditure of substantial time and financial resources.

#### ***Review and Approval of Drugs and Biologics in the United States***

In the United States, the FDA approves and regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and related regulations. Biological products are licensed for marketing under the Public Health Service Act, or PHSA, and subject to regulation under the FDCA and related regulations. An applicant seeking approval to market and distribute a new drug or biological product in the United States must typically secure the following:

- completion of preclinical laboratory tests in compliance with the FDA's good laboratory practice, or GLP, regulations;
- submission to the FDA of an investigational new drug application, or IND, which must take effect before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices, or GCPs, to establish the safety and efficacy of the proposed drug product for each proposed indication;
- submission to the FDA of an NDA for a drug candidate product and a biologics license application, or BLA, for a biological product requesting marketing for one or more proposed indications;
- review of the request for approval by an FDA advisory committee, where appropriate or if applicable;
- completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with cGMPs to assure the product's identity, strength, quality and purity;
- completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data;
- payment of user fees and securing FDA approval of the NDA or BLA; and
- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and the potential requirement to conduct post-approval studies.

#### ***Preclinical Studies***

Before an applicant begins testing a compound with potential therapeutic value in humans, the product candidate enters the preclinical testing stage. Preclinical studies include laboratory evaluation of the purity and stability of the manufactured substance or active pharmaceutical ingredient and the formulated product, as well as *in vitro* and animal studies to assess the safety and activity of the product candidate for initial testing in humans and to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, and long-term toxicity studies, may continue after the IND is submitted.

#### ***The IND and IRB Processes***

An IND is a request for FDA authorization to administer an investigational product candidate to humans. Such authorization must be secured prior to interstate shipment and administration of any new drug or biologic that is not the subject of an approved NDA or BLA. In support of a request for an IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments must be submitted to

the FDA as part of the IND. In addition, the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. The FDA requires a 30-day waiting period after the filing of each IND before clinical trials may begin. This waiting period is designed to allow the FDA to review the IND to determine whether human research subjects and patients will be exposed to unreasonable health risks. At any time during this 30-day period, or thereafter, the FDA may raise concerns or questions about the conduct of the trials as outlined in the IND and impose a clinical hold or partial clinical hold. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can begin. The FDA's primary objectives in reviewing an IND are to assure the safety and rights of patients and to help assure that the quality of the investigation will be adequate to permit an evaluation of the drug's effectiveness and safety and of the biological product's safety, purity and potency.

Following commencement of a clinical trial under an IND, the FDA may also place a clinical hold or partial clinical hold on that trial. Clinical holds are imposed by the FDA whenever there is concern for patient safety and may be a result of new data, findings, or developments in clinical, nonclinical, and/or chemistry, manufacturing, and controls, or CMC. A clinical hold is an order issued by the FDA to the sponsor to delay a proposed clinical investigation or to suspend an ongoing investigation. A partial clinical hold is a delay or suspension of only part of the clinical work requested under the IND. For example, a specific protocol or part of a protocol is not allowed to proceed, while other protocols may do so. No more than 30 days after imposition of a clinical hold or partial clinical hold, the FDA will provide the sponsor a written explanation of the basis for the hold. Following issuance of a clinical hold or partial clinical hold, an investigation may only resume after the FDA has notified the sponsor that the investigation may proceed. The FDA will base that determination on information provided by the sponsor correcting the deficiencies previously cited or otherwise satisfying the FDA that the investigation can proceed.

A sponsor may choose, but is not required, to conduct a foreign clinical study under an IND. When a foreign clinical study is conducted under an IND, all IND requirements must be met unless waived. When a foreign clinical study is not conducted under an IND, the sponsor must ensure that the study complies with certain regulatory requirements of the FDA in order to use the study as support for an IND or application for marketing approval in the United States. The FDA's regulations are intended to help ensure the protection of human subjects enrolled in non-IND foreign clinical studies, as well as the quality and integrity of the resulting data. They further help ensure that non-IND foreign studies are conducted in a manner comparable to that required for IND studies.

In addition to the foregoing IND requirements, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the trial at least annually. The IRB must review and approve, among other things, the trial protocol and informed consent information to be provided to trial subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

Additionally, some trials are overseen by an independent group of qualified experts organized by the trial sponsor, known as a data safety monitoring board, or DSMB, or committee. This group provides authorization for whether a trial may move forward at designated check points based on access that only the group maintains to available data from the trial. Suspension or termination of development during any phase of clinical trials can occur if it is determined that the participants or patients are being exposed to an unacceptable health risk. Other reasons for suspension or termination may be made based on evolving business objectives and/or competitive climate. Information about certain clinical trials, including details of the protocol and eventually study results, also must be submitted within specific time frames to the National Institutes of Health for public dissemination on the ClinicalTrials.gov data registry. Similar requirements for posting clinical trial information in clinical trial registries exist in the European Union, or the EU, and in other countries outside the United States.

#### ***Human Clinical Studies in Support of an NDA or BLA***

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include, among other

things, the requirement that all research subjects provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written trial protocols detailing, among other things, the inclusion and exclusion criteria, the objectives of the trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated.

The clinical investigation of an investigational drug or biological product is generally divided into four phases. Although the phases are usually conducted sequentially, they may overlap or be combined. The four phases of an investigation are as follows:

- **Phase 1.** Phase 1 studies include the initial introduction of an investigational new drug or biological product into humans. These studies are designed to evaluate the safety, dosage tolerance, metabolism and pharmacologic actions of the investigational drug or biological product in humans, the side effects associated with increasing doses, and if possible, to gain early evidence on effectiveness.
- **Phase 2.** Phase 2 includes the controlled clinical trials conducted to preliminarily or further evaluate the effectiveness of the investigational drug or biological product for a particular indication(s) in patients with the disease or condition under trial, to determine dosage tolerance and optimal dosage, and to identify possible adverse side effects and safety risks associated with the drug or biological product. Phase 2 trials are typically well-controlled, closely monitored, and conducted in a limited patient population.
- **Phase 3.** Phase 3 trials are generally controlled clinical trials conducted in an expanded patient population generally at geographically dispersed clinical trial sites. They are performed after preliminary evidence suggesting effectiveness of the drug or biological product has been obtained, and are intended to further evaluate dosage, clinical effectiveness and safety, to establish the overall benefit-risk relationship of the investigational drug or biological product, and to provide an adequate basis for product approval.
- **Phase 4.** Post-approval studies may be conducted after initial marketing approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. In addition, IND safety reports must be submitted to the FDA for any of the following: serious and unexpected suspected adverse reactions; findings from other studies or animal or *in vitro* testing that suggest a significant risk in humans exposed to the drug; and any clinically important increase in the case of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the clinical data submitted.

In August 2018, the FDA released a draft guidance entitled “Expansion Cohorts: Use in First-In-Human Clinical Trials to Expedite Development of Oncology Drugs and Biologics,” which outlines how developers can utilize an adaptive trial design commonly referred to as a seamless trial design in early stages of oncology biological product development (i.e., the first-in-human clinical trial) to compress the traditional three phases of trials into one continuous trial called an expansion cohort trial. Information to support the design of individual expansion cohorts are included in IND applications and assessed by FDA. Expansion cohort trials can potentially bring efficiency to biological product development and reduce developmental costs and time.

Concurrent with clinical trials, companies often complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the candidate product as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things, must develop methods for testing the identity, strength, quality, purity, and potency of the final drug. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

#### **Expanded Access**

Expanded access, sometimes called “compassionate use,” is the use of investigational products outside of clinical trials to treat patients with serious or immediately life-threatening diseases or conditions when there



are no comparable or satisfactory alternative treatment options. FDA regulations allow access to investigational products under an IND by the sponsor or the treating physician for treatment purposes on a case-by-case basis for: individual patients (single-patient IND applications for treatment in emergency settings and non-emergency settings); intermediate-size patient populations; and larger populations for use of the investigational product under a treatment protocol or treatment IND application.

There is no requirement for a sponsor to provide expanded access to an investigational product. However, if a sponsor decides to make its investigational product available for expanded access, the FDA reviews requests for expanded access and determines if treatment may proceed. Expanded access may be appropriate when all of the following criteria apply: patient(s) have a serious or immediately life-threatening disease or condition, and there is no comparable or satisfactory alternative therapy to diagnose, monitor or treat the disease or condition; the potential patient benefit justifies the potential risks of the treatment and the potential risks are not unreasonable in the context or condition to be treated; and the expanded use of the investigational drug for the requested treatment will not interfere with initiation, conduct or completion of clinical investigations that could support marketing approval of the product or otherwise compromise the potential development of the product.

Sponsors of one or more investigational products for the treatment of a serious disease(s) or condition(s) must make publicly available their policy for evaluating and responding to requests for expanded access for individual patients. Sponsors are required to make such policies publicly available upon the earlier of initiation of a Phase 2 or Phase 3 trial; or 15 days after the investigational drug or biologic receives designation as a Breakthrough Therapy, fast track product or regenerative medicine advanced therapy.

In addition, on May 30, 2018, the Right to Try Act was signed into law. The law, among other things, provides an additional mechanism for patients with a life-threatening condition who have exhausted approved treatments and are unable to participate in clinical trials to access certain investigational products that have completed a Phase 1 trial, are the subject of an active IND and are undergoing investigation for FDA approval. Unlike the expanded access framework described above, the Right to Try Pathway does not require FDA to review or approve requests for use of the investigational product. There is no obligation for a manufacturer to make its investigational products available to eligible patients under the Right to Try Act.

### ***Pediatric Studies***

Under the Pediatric Research Equity Act of 2003, an application or supplement thereto must contain data that are adequate to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. Sponsors must also submit pediatric study plans prior to the assessment data. Those plans must contain an outline of the proposed pediatric study or studies the applicant plans to conduct, including study objectives and design, any deferral or waiver requests and other information required by regulation. The applicant, the FDA, and the FDA's internal review committee must then review the information submitted, consult with each other and agree upon a final plan. The FDA or the applicant may request an amendment to the plan at any time.

For investigational products intended to treat a serious or life-threatening disease or condition, the FDA must, upon the request of an applicant, meet to discuss preparation of the initial pediatric study plan or to discuss deferral or waiver of pediatric assessments. In addition, the FDA will meet early in the development process to discuss pediatric study plans with sponsors, and the FDA must meet with sponsors by no later than the end-of-phase 1 meeting for serious or life-threatening diseases and by no later than 90 days after the FDA's receipt of the study plan.

The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. Additional requirements and procedures relating to deferral requests and requests for extension of deferrals are contained in the Food and Drug Administration Safety and Innovation Act, or FDASIA. The FDA maintains a list of diseases that are exempt from PREA requirements due to low prevalence of disease in the pediatric population. In 2017, with the passage of the FDA Reauthorization Act of 2017, or FDARA, Congress further modified these provisions. Previously, drugs that had been granted orphan drug designation were exempt from the requirements of the Pediatric Research Equity Act. Under the

amended section 505B, beginning on August 18, 2020, the submission of a pediatric assessment, waiver or deferral will be required for certain molecularly targeted cancer indications with the submission of an application or supplement to an application.

FDARA also established new requirements to govern certain molecularly targeted cancer indications. Any company that submits an application three years after the date of enactment of that statute must submit pediatric assessments with the application if the product is intended for the treatment of an adult cancer and is directed at a molecular target that the FDA determines to be substantially relevant to the growth or progression of a pediatric cancer. The investigation must be designed to yield clinically meaningful pediatric study data regarding the dosing, safety and preliminary efficacy to inform pediatric labeling for the product.

#### ***Submission and Review of an NDA or BLA by the FDA***

In order to obtain approval to market a drug or biological product in the United States, a marketing application must be submitted to the FDA that provides data establishing the safety and effectiveness of the proposed drug product for the proposed indication, and the safety, purity and potency of the biological product for its intended indication. The application includes all relevant data available from pertinent preclinical and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls and proposed labeling, among other things. Data can come from company-sponsored clinical trials intended to test the safety and effectiveness of a use of a product, or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and effectiveness of the investigational drug product and the safety, purity and potency of the biological product to the satisfaction of the FDA.

The application is the vehicle through which applicants formally propose that the FDA approve a new product for marketing and sale in the United States for one or more indications. Every new product candidate must be the subject of an approved NDA or BLA before it may be commercialized in the United States. Under federal law, the submission of most applications is subject to an application user fee. The sponsor of an approved application is also subject to an annual program fee. Certain exceptions and waivers are available for some of these fees, such as an exception from the application fee for products with orphan designation and a waiver for certain small businesses. If an application is withdrawn prior to the FDA acceptance for filing, 75% of these fees may be refunded to the sponsor. If an application is withdrawn after filing, a lower portion of these fees may be refunded in certain circumstances.

Following submission of an NDA or BLA, the FDA conducts a preliminary review of the application generally within 60 calendar days of its receipt and strives to inform the sponsor by the 74th day after the FDA's receipt of the submission to determine whether the application is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept the application for filing. In this event, the application must be resubmitted with the additional information. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to specified performance goals in the review process of NDAs and BLAs. Under that agreement, 90% of applications seeking approval of New Molecular Entities, or NMEs, are meant to be reviewed within ten months from the date on which FDA accepts the NDA for filing, and 90% of applications for NMEs that have been designated for "priority review" are meant to be reviewed within six months of the filing date. The review process and the Prescription Drug User Fee Act goal date may be extended by the FDA for three additional months to consider new information or clarification provided by the applicant to address an outstanding deficiency identified by the FDA following the original submission.

Before approving an application, the FDA typically will inspect the facility or facilities where the product is or will be manufactured. These pre-approval inspections may cover all facilities associated with an NDA or BLA submission, including drug component manufacturing (e.g., active pharmaceutical ingredients), finished drug product manufacturing, and control testing laboratories. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA or BLA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP.

If the FDA decides not to license or approve the application, it will issue a Complete Response letter, or CRL. A CRL will describe all of the deficiencies that the FDA has identified in the application, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the CRL without first conducting required inspections, testing submitted product lots, and/or reviewing proposed labeling. In issuing the CRL, the FDA may recommend actions that the applicant might take to place the application in condition for approval, including requests for additional information or clarification. The FDA may delay or refuse approval of an application if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

In addition, as a condition of approval, the FDA may require an applicant to develop a REMS. REMS use risk minimization strategies beyond the professional labeling to ensure that the benefits of the product outweigh the potential risks. To determine whether a REMS is needed, the FDA will consider the size of the population likely to use the product, seriousness of the disease, expected benefit of the product, expected duration of treatment, seriousness of known or potential adverse events, and whether the product is a new molecular entity. Under FDARA, the FDA must implement a protocol to expedite review of responses to inspection reports pertaining to certain applications, including applications for products in shortage or those for which approval is dependent on remediation of conditions identified in the inspection report.

The FDA may refer an application for a novel product to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

#### ***The FDA's Decision on an NDA or BLA***

On the basis of the FDA's evaluation of the application and accompanying information, including the results of the inspection of the manufacturing facilities, the FDA may issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

If the FDA approves a product, it may limit the approved indications for use for the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including phase 4 trials, be conducted to further assess the drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs. After approval, many types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval.

#### ***Fast Track, Breakthrough Therapy and Priority Review Designations***

The FDA is authorized to designate certain products for expedited review if they are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. These programs include fast track designation, Breakthrough Therapy designation and priority review designation.

Specifically, the FDA may designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track products, sponsors may have greater interactions with the FDA and the FDA may initiate

review of sections of a Fast Track product's application before the application is complete. This rolling review may be available if the FDA determines, after preliminary evaluation of clinical data submitted by the sponsor, that a Fast Track product may be effective. The sponsor must also provide, and the FDA must approve, a schedule for the submission of the remaining information and the sponsor must pay applicable user fees. However, the FDA's time period goal for reviewing a Fast Track application does not begin until the last section of the application is submitted. In addition, the Fast Track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

Second, a product may be designated as a Breakthrough Therapy if it is intended, either alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The FDA may take certain actions with respect to Breakthrough Therapies, including holding meetings with the sponsor throughout the development process; providing timely advice to the product sponsor regarding development and approval; involving more senior staff in the review process; assigning a cross-disciplinary project lead for the review team; and taking other steps to help the sponsor design the clinical trials in an efficient manner.

Third, the FDA may designate a product for priority review if it is a product that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA determines, on a case-by-case basis, whether the proposed product represents a significant improvement when compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting product reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes, and evidence of safety and effectiveness in a new subpopulation. A priority designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for taking action on a marketing application from ten months to six months.

#### ***Accelerated Approval Pathway***

The FDA may grant accelerated approval to a product for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit. The FDA may also grant accelerated approval for such a condition when the product has an effect on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality, or IMM, and that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity or prevalence of the condition and the availability or lack of alternative treatments. Products granted accelerated approval must meet the same statutory standards for safety and effectiveness as those granted traditional approval.

For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. An intermediate clinical endpoint is a measurement of a therapeutic effect that is considered reasonably likely to predict the clinical benefit of a drug, such as an effect on IMM. The FDA has limited experience with accelerated approvals based on intermediate clinical endpoints but has indicated that such endpoints generally may support accelerated approval where the therapeutic effect measured by the endpoint is not itself a clinical benefit and basis for traditional approval, if there is a basis for concluding that the therapeutic effect is reasonably likely to predict the ultimate clinical benefit of a product.

The accelerated approval pathway is most often used in settings in which the course of a disease is long and an extended period of time is required to measure the intended clinical benefit of a product, even if the effect on the surrogate or intermediate clinical endpoint occurs rapidly. Thus, accelerated approval has been used extensively in the development and approval of products for treatment of a variety of cancers in which the goal of therapy is generally to improve survival or decrease morbidity and the duration of the typical disease course requires lengthy and sometimes large trials to demonstrate a clinical or survival benefit. Thus, the benefit of accelerated approval derives from the potential to receive approval based on surrogate endpoints

sooner than possible for trials with clinical or survival endpoints, rather than deriving from any explicit shortening of the FDA approval timeline, as is the case with priority review.

The accelerated approval pathway is usually contingent on a sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the product's clinical benefit. As a result, a product candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of phase 4 or post-approval trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, or confirm a clinical benefit during post-marketing studies, would allow the FDA to initiate expedited proceedings to withdraw approval of the product. All promotional materials for product candidates approved under accelerated regulations are subject to prior review by the FDA.

#### ***Post-Approval Regulation***

Drugs and biologics manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

In addition, manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments with the FDA and state agencies and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, suspension of the approval, or complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Products may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability. If a company is found to have promoted off-label uses, it may become subject to adverse public relations and administrative and judicial enforcement by the FDA, the Department of Justice, or the Office of the Inspector General of the Department of Health and Human Services, as well as state authorities. This could subject a company to a range of penalties that could have a significant commercial

impact, including civil and criminal fines and agreements that materially restrict the manner in which a company promotes or distributes drug products.

### ***Biosimilars***

The 2010 Patient Protection and Affordable Care Act, or ACA, which was signed into law on March 23, 2010, included a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA. The BPCIA established a regulatory scheme authorizing the FDA to approve biosimilars and interchangeable biosimilars. As of January 1, 2021, the FDA has approved numerous biosimilar products for use in the United States. No interchangeable biosimilars, however, have been approved. The FDA has issued several guidance documents outlining an approach to review and approval of biosimilars. Additional guidance is expected to be finalized by FDA in the near term.

Under the BPCIA, a manufacturer may submit an application for licensure of a biologic product that is “biosimilar to” or “interchangeable with” a previously approved biological product or “reference product.” In order for the FDA to approve a biosimilar product, it must find that there are no clinically meaningful differences between the reference product and proposed biosimilar product in terms of safety, purity, and potency. For the FDA to approve a biosimilar product as interchangeable with a reference product, the agency must find that the biosimilar product can be expected to produce the same clinical results as the reference product, and (for products administered multiple times) that the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date of approval of the reference product. The FDA may not approve a biosimilar product until 12 years from the date on which the reference product was approved. Even if a product is considered to be a reference product eligible for exclusivity, another company could market a competing version of that product if the FDA approves a full BLA for such product containing the sponsor’s own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed “interchangeable” by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law.

### ***Orphan Drug Designation and Exclusivity***

Under the Orphan Drug Act, the FDA may designate a drug product as an “orphan drug” if it is intended to treat a rare disease or condition, generally meaning that it affects fewer than 200,000 individuals in the United States, or more in cases in which there is no reasonable expectation that the cost of developing and making a drug product available in the United States for treatment of the disease or condition will be recovered from sales of the product. A company must request orphan drug designation before submitting an NDA or BLA for the candidate product. If the request is granted, the FDA will disclose the identity of the therapeutic agent and its potential use. Orphan drug designation does not shorten the Prescription Drug User Fee Act, or PDUFA, goal dates for the regulatory review and approval process, although it does convey certain advantages such as tax benefits and exemption from the PDUFA application fee.

If a product with orphan designation receives the first FDA approval for the disease or condition for which it has such designation or for a select indication or use within the rare disease or condition for which it was designated, the product generally will receive orphan drug exclusivity. Orphan drug exclusivity means that the FDA may not approve another sponsor’s marketing application for the same drug for the same indication for seven years, except in certain limited circumstances. Orphan exclusivity does not block the approval of a different product for the same rare disease or condition, nor does it block the approval of the same product for different indications. If a drug or biologic designated as an orphan drug ultimately receives marketing approval for an indication broader than what was designated in its orphan drug application, it may not be entitled to exclusivity. Orphan exclusivity will not bar approval of another product under certain circumstances, including if a company with orphan drug exclusivity is not able to meet market demand and in cases where a subsequent product with the same drug or biologic for the same indication is shown to be clinically superior to the approved product on the basis of greater efficacy or safety, or providing a major contribution to patient care. Under Omnibus legislation signed by President Trump on December 27, 2020, the requirement for a

subsequent product to show clinical superiority in order to break the previous product's orphan drug exclusivity applies to drugs and biologics that received orphan drug designation before enactment of FDARA in 2017 but have not yet been approved or licensed by FDA.

#### ***Pediatric Exclusivity***

Pediatric exclusivity is another type of non-patent marketing exclusivity in the United States and, if granted, provides for the attachment of an additional six months of marketing protection to the term of any existing regulatory exclusivity, including the non-patent and orphan exclusivity. This six-month exclusivity may be granted if an NDA or BLA sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The data do not need to show the product to be effective in the pediatric population studied; rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA within the statutory time limits, whatever statutory or regulatory periods of non-patent exclusivity for drugs and biologics, or patent protection that covers a drug product, are extended by six months. This is not a patent term extension, but it effectively extends the regulatory period during which the FDA cannot approve another application.

#### ***Patent Term Restoration and Extension***

A patent claiming a new drug product may be eligible for a limited patent term extension under the Hatch-Waxman Amendments, which permits a patent restoration of up to five years for patent term lost during product development and the FDA regulatory review. The restoration period granted on a patent covering a product is typically one-half the time between the effective date of the IND approval and the submission date of an application, plus the time between the submission date of an application and the ultimate approval date. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date. Only one patent applicable to an approved product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent in question. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. The United States Patent and Trademark Office reviews and approves the application for any patent term extension or restoration in consultation with the FDA.

#### ***Pharmaceutical Coverage, Pricing and Reimbursement***

In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other government authorities. Thus, even if a product candidate is approved, sales of the product will depend, in part, on the extent to which third-party payors, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, the product. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

It is time consuming and expensive to seek coverage and reimbursement from third-party payors. In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable marketing approvals. Nonetheless, product candidates may not be considered medically necessary or cost effective. A decision by a third-party payor not to cover a product candidate could reduce physician utilization once the product is approved and have a material adverse effect on sales, results of operations and financial condition. Additionally, a payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a drug

product does not assure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor.

#### ***Healthcare Law and Regulation***

Health care providers and third-party payors play a primary role in the recommendation and prescription of drug products that are granted marketing approval. Arrangements with providers, consultants, third-party payors and customers are subject to broadly applicable fraud and abuse, anti-kickback, false claims laws, patient privacy laws and regulations and other health care laws and regulations that may constrain business and/or financial arrangements.

Restrictions under applicable federal and state health care laws and regulations, include the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, paying, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal health care program such as Medicare and Medicaid; the federal civil and criminal false claims laws, false statements, and civil monetary penalties laws, including the civil False Claims Act, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false, fictitious or fraudulent or knowingly making, using or causing to be made or used a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government; the Health Insurance Portability and Accountability Act, or HIPAA, which, in addition to privacy protections applicable to healthcare providers and other entities, prohibits executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters; federal laws that require pharmaceutical manufacturers to report certain calculated product prices to the government or provide certain discounts or rebates to government authorities or private entities, often as a condition of reimbursement under government healthcare programs; analogous state laws and regulations, including state anti-kickback and false claims laws; and the federal transparency requirements known as the federal Physician Payments Sunshine Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the Centers for Medicare & Medicaid Services, or CMS, within the United States Department of Health and Human Services, information related to payments and other transfers of value made by that entity to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these federal transparency reporting obligations will extend to include transfers of value made during the previous year to physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists and certified nurse midwives. In addition, HIPAA as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, among other things, imposes limitations on certain covered healthcare providers, health plans, and healthcare clearinghouses and their respective business associates and their covered subcontractors that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information.

Further, some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures or restrict financial interactions between pharmaceutical companies and healthcare providers. Additionally, some state and local laws require the registration of pharmaceutical sales representatives in the jurisdiction. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. In particular, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws, govern the collection, use, disclosure, and protection of health-related and other personal information.

In addition, we may be subject to laws and regulations prohibiting bribery and corruption such as the Foreign Corrupt Practices Act, or FCPA, which prohibits companies and their intermediaries from making, or offering or promising to make, improper payments to non-U.S. officials for the purpose of obtaining or retaining



business or otherwise seeking favorable treatment as well as federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers.

Violation of the laws described above or any other governmental laws and regulations may result in significant penalties, including civil, criminal, and administrative penalties, damages, fines, the curtailment or restructuring of operations, the exclusion from participation in federal and state healthcare programs, disgorgement, contractual damages, reputational harm, diminished profits and future earnings, imprisonment, and additional reporting requirements and oversight if a manufacturer becomes subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws. Furthermore, efforts to ensure that business activities and business arrangements comply with applicable healthcare laws and regulations can be costly.

Similar healthcare laws and regulations exist in the EU and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of personal information

#### ***Health Care Reform in the United States and Potential Changes to Health Care Laws***

Sales of any biopharmaceutical products, if and when approved by the FDA or analogous authorities outside the United States, will depend in significant part on the availability of third-party coverage and adequate reimbursement for the products.

Health care reform has been a significant trend in the U.S. health care industry and elsewhere. In particular, government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medical products and services. Under the former Trump administration, there were efforts to repeal or modify prior health care reform legislation and regulation and also to implement new health care reform measures, including measures related to payment for drugs under government health care programs. However, on June 17, 2021 the U.S. Supreme Court dismissed a challenge on procedural grounds that argued the ACA is unconstitutional in its entirety because the “individual mandate” was repealed by Congress. Thus, the ACA will remain in effect in its current form. The nature and scope of health care reform in the new Biden administration remains uncertain but early actions including additional health care reform, its expressed intent to pursue certain policy initiatives to reduce drug prices, as well as challenges to actions taken under the Trump administration have been taken and are likely to continue.

There has been heightened governmental scrutiny in recent years over the manner in which manufacturers set prices for their marketed products, which has resulted in proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing and reform government program reimbursement methodologies for pharmaceutical and biologic products. At the state level, individual states are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing.

At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. We expect that

additional federal and state health care reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for health care products and services.

### ***Data Privacy Regulation***

#### *U.S. Privacy Law*

There are numerous U.S. federal and state laws and regulations related to the privacy and security of personal information, including laws requiring the safeguarding of personal information and laws requiring notification to governmental authorities and data subjects as well as remediation in the event of a data breach.

There have been several developments in recent years with respect to U.S. state data privacy laws. In 2018, California passed into law the California Consumer Privacy Act, or the CCPA, which took effect on January 1, 2020 and imposed many requirements on businesses that process the personal information of California residents. Many of the CCPA's requirements are similar to those found in the GDPR, including requiring businesses to provide notice to data subjects regarding the information collected about them and how such information is used and shared, and providing data subjects the right to request access to such personal information and, in certain cases, request the erasure of such personal information. The CCPA also affords California residents the right to opt-out of "sales" of their personal information. The CCPA contains significant penalties for companies that violate its requirements. It also provides California residents a private right of action, including the ability to seek statutory damages, in the event of a breach involving their personal information. Compliance with the CCPA is a rigorous and time-intensive process that may increase the cost of doing business or require companies to change their business practices to ensure full compliance. On November 3, 2020, California voters passed a ballot initiative for the California Privacy Rights Act, or the CPRA, which will significantly expand the CCPA to incorporate additional GDPR-like provisions including requiring that the use, retention and sharing of personal information of California residents be reasonably necessary and proportionate to the purposes of collection or processing, granting additional protections for sensitive personal information, and requiring greater disclosures related to notice to residents regarding retention of information. The CPRA will also expand personal information rights of California residents, including creating a right to opt out of sharing of personal information with third parties for advertising, expanding the lookback period for the right to know about personal information held by businesses, and expanding the right to erasure for information held by third parties. Most CPRA provisions will take effect on January 1, 2023, though the obligations will apply to any personal information collected after January 1, 2022. Similar laws have been proposed or passed at the U.S. federal and state level, including the Virginia Consumer Data Protection Act, which will take effect on January 1, 2023.

#### *General data protection regulation*

Many countries outside of the United States maintain rigorous laws governing the privacy and security of personal information. The collection, use, disclosure, transfer, or other processing of personal data, including personal health data, regarding individuals who are located in the EEA, and the processing of personal data that takes place in the EEA, is subject to the GDPR, which became effective on May 25, 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, and it imposes heightened requirements on companies that process health and other sensitive data, such as requiring in many situations that a company obtain the consent of the individuals to whom the sensitive personal data relate before processing such data. Examples of obligations imposed by the GDPR on companies processing personal data that fall within the scope of the GDPR include providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, appointing a data protection officer, providing notification of data breaches and taking certain measures when engaging third-party processors. The GDPR also imposes strict rules on the transfer of personal data to countries outside the EEA, including the United States, and permits data protection authorities to impose large penalties for violations of the GDPR, including potential fines of up to €20 million or 4% of annual global revenues, whichever is greater. The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. Compliance with the GDPR is a rigorous and time-intensive process that may increase the cost of doing business or require companies to change their business practices to ensure full compliance. In July 2020, the Court of Justice of the European Union, or the CJEU, invalidated the EU-U.S. Privacy Shield framework, one of the mechanisms used to legitimize the

transfer of personal data from the EEA to the United States. The CJEU decision also drew into question the long-term viability of an alternative means of data transfer, the standard contractual clauses, for transfers of personal data from the EEA to the United States. Following the withdrawal of the U.K. from the EU, the U.K. Data Protection Act 2018 applies to the processing of personal data that takes place in the U.K. and includes parallel obligations to those set forth by GDPR.

#### **Employees and Human Capital Resources**

As of September 30, 2021, we had 69 full-time employees, including 30 employees with M.D., Pharm.D. or Ph.D. degrees. Of these full-time employees, 50 are engaged in research and development activities and 19 are engaged in general and administrative activities. None of our employees is represented by a labor union or covered by a collective bargaining agreement. We consider our relationship with our employees to be good.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and additional employees. We are committed to diversity, equity and inclusion across all aspects of our organization, including in our recruitment, advancement and development practices. Each year, we review employee demographic information to evaluate our diversity efforts across all functions and levels of the company. We conduct annual performance and development reviews for each of our employees to discuss the individual's strengths and development opportunities, career development goals and performance goals. We also regularly survey employees to assess employee engagement and satisfaction. Additionally, each regular full-time employee is provided an allowance of up to \$10,000 per calendar year and five working days to attend appropriate job-related trainings and other professional development courses, seminars, meetings, and similar sessions. The principal purposes of our equity incentive plans are to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards. We value our employees and regularly benchmark total rewards we provide, such as short- and long-term compensation, 401(k) contributions, health, welfare and quality of life benefits, paid time off and personal leave, against our industry peers to ensure we remain competitive and attractive to potential new hires.

#### **Properties and Facilities**

We occupy approximately 28,000 square feet of office and laboratory space in Waltham, Massachusetts under a lease that expires in March 2030 with an option to renew for an additional five years. We believe that our facilities are sufficient to meet our current needs and that suitable additional space will be available as and when needed.

#### **Legal Proceedings**

We are currently not a party to any material legal proceedings.

## MANAGEMENT

**Executive Officers and Directors**

The following table sets forth the name, age as of September 30, 2021 and position of each of our executive officers and directors.

<u>Name</u>	<u>Age</u>	<u>Position</u>
<b>Executive Officers</b>		
René Russo, Pharm.D.	46	President and Chief Executive Officer, Director
Salvatore Giovine	38	Chief Financial Officer
Martin Huber, M.D.	61	President of R&D and Chief Medical Officer
<b>Non-Employee Directors</b>		
Daniel S. Lynch <sup>(2)(3)</sup>	63	Chairman of the Board of Directors
Sara M. Bonstein <sup>(1)</sup>	41	Director
Paul J. Clancy <sup>(1)(2)</sup>	59	Director
Daniel Curran, M.D. <sup>(3)</sup>	54	Director
David Gardner*	38	Director
David Grayzel, M.D.*	53	Director
Andrew Hack, M.D., Ph.D.*	48	Director
Rachel Humphrey, M.D. <sup>(3)</sup>	60	Director
Michael Ross, Ph.D. <sup>(1)</sup>	72	Director
Christina Rossi <sup>(2)</sup>	46	Director

(1) Member of the audit committee.

(2) Member of the compensation committee.

(3) Member of the nominating and corporate governance committee.

\* We anticipate Mr. Gardner and Drs. Grayzel and Hack will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

**Executive Officers**

**René Russo, Pharm.D.** has served as our chief executive officer and as a member of our board of directors since May 2019 and as our president since May 2021. She has served as founder and chairman of the board of directors of Adagio Therapeutics, Inc., a biotechnology company, since June 2020. Dr. Russo served as entrepreneur-in-residence at New Enterprise Associates, a venture capital firm, from November 2018 to November 2019. Prior to that, she served as president and chief executive officer of Arsanis, Inc., or Arsanis, a biopharmaceutical company, from April 2016 to November 2018, and as its chief development officer from July 2015 until April 2016. Prior to joining Arsanis, Dr. Russo served in various roles of increasing responsibility over an 11-year period at Cubist Pharmaceuticals, Inc., a pharmaceutical development company, focused on the development and commercialization of infectious disease therapeutics, from 2003 until its acquisition by Merck Research Laboratories, or Merck, a healthcare company, in May 2015, most recently as its vice president, global medical affairs. Dr. Russo served as a member of the board of directors of Arsanis, Inc. since April 2016 and continues to serve as a member of X4 Pharmaceuticals, Inc., a biopharmaceutical company, following its merger with Arsanis in March 2019. Prior to joining the biotechnology industry, Dr. Russo held clinical positions at Robert Wood Johnson University Hospital and Princeton Hospital. Dr. Russo received her Pharm.D. and B.S. from Rutgers University. We believe Dr. Russo is qualified to serve on our board of directors because of her expertise and experience as our president and chief executive officer and her expertise in clinical development and commercialization of therapeutics in the life sciences industry.

**Salvatore Giovine** has served as our chief financial officer since March 2021. Prior to joining us, Mr. Giovine held roles of increasing responsibility at Johnson & Johnson, Inc., a diversified healthcare company, from May 2006 to March 2021, and most recently served as senior finance director. Prior to that, he served as

associate in the private equity group at Deloitte LLP, an audit and accounting firm, from May 2004 to May 2006. Mr. Giovine received a B.S. and M.B.A. from Fordham Gabelli School of Business.

**Martin Huber, M.D.** has served as our chief medical officer since April 2020 and as our President of R&D since August 2021. From August 2015 to April 2020, Dr. Huber served as senior vice president and chief medical officer from at Tesaro, Inc., a pharmaceutical company, before its acquisition by GlaxoSmithKline plc, a biopharmaceutical company. Prior to that, he was vice president, oncology clinical research at Merck where he was instrumental in the advancement of Merck's oncology programs, serving as program lead for pembrolizumab in non-small cell lung cancer. Prior to Merck, Dr. Huber served in roles of increasing responsibility at Schering-Plough, Hoffmann-La Roche and Rhone-Poulenc Rorer, a pharmaceutical company, from 1994 to 2015. Dr. Huber received a B.S. in Biology from Texas Lutheran College and an M.D. from the Baylor College of Medicine. He completed his medical oncology training at U.T. M.D. Anderson Cancer Center.

#### **Non-Employee Directors**

**Daniel S. Lynch** has served as a member of our board of directors and as chairman of our board of directors since June 2020. Mr. Lynch has served as executive venture partner at GV, a venture capital firm, since March 2021. Mr. Lynch previously served as the interim chief executive officer of Surface Oncology, Inc., or Surface, a pharmaceutical company, from September 2017 until January 2018. He served as an advisor to Third Rock Ventures, a venture capital firm, from December 2016 to March 2021, as a venture partner from May 2013 to December 2016 and as an entrepreneur-in-residence from May 2011 to May 2013. Mr. Lynch serves as a member of the boards of directors of bluebird bio, Inc., a biopharmaceutical company, SpringWorks Therapeutics, Inc., a biopharmaceutical company, and Omega Alpha SPAC. Within the past five years, he served as a member of the boards of directors for the following biotechnology companies: Surface Oncology, Inc., or Surface Oncology, Blueprint Medicines Corporation, Translate Bio, Inc., and Sesen Bio, Inc. Mr. Lynch received a B.A. in mathematics from Wesleyan University and an M.B.A. from the Darden Graduate School of Business Administration at the University of Virginia. We believe that Mr. Lynch is qualified to serve on our board of directors because of his senior leadership experience, his experience in private equity investing in life sciences companies and his extensive corporate governance experience through service on the boards of directors of other life sciences companies.

**Sara M. Bonstein** has served on our board of directors since August 2021. Ms. Bonstein has more than 20 years of experience in the life sciences industry and has served as chief financial officer of Insmmed, Inc., or Insmmed, since January 2020. Prior to joining Insmmed, she served as chief financial officer and chief operating officer of OncoSec Medical Incorporated from May 2018 to January 2020 and as the chief financial officer, treasurer and executive vice president at Advaxis, Inc., or Advaxis, from February 2014 to April 2018. In these roles, she led multiple capital markets and licensing transactions, established strong financial controls, streamlined business operations, and was responsible for the overall leadership and management of operations, including corporate finance, investor relations and business development. Prior to Advaxis, Ms. Bonstein served in various finance roles of increasing responsibility at Eli Lilly & Company, or Eli Lilly, ImClone Systems Incorporated and Johnson & Johnson Inc., including as a Six Sigma Champion and Black Belt, a program implemented at Eli Lilly to enable more efficient financial growth while increasing customer satisfaction. Ms. Bonstein has served as a member of the board of directors of scPharmaceuticals Inc. since July 2020. She holds a B.S. in finance from The College of New Jersey and an MBA from Rider University. We believe Ms. Bonstein is qualified to serve on our board of directors because of her experience as a senior executive of several life sciences companies, including her finance and operations expertise and knowledge of the life sciences industry.

**Paul J. Clancy** has served on our board of directors since July 2020. Mr. Clancy has more than 35 years of experience in financial management and strategic business planning. Mr. Clancy served as executive vice president, senior advisor of Alexion Pharmaceuticals, Inc., or Alexion, a biopharmaceutical company, from November 2019 to July 2020, and as chief financial officer of Alexion from July 2017 to October 2019. Prior to Alexion, Mr. Clancy served as the executive vice president and chief financial officer at Biogen Inc. (formerly known as Biogen Idec), a biopharmaceutical company, or Biogen, since 2007. He also served as senior vice president of finance of Biogen Idec, with responsibilities for leading the treasury, tax, investor relations and business planning groups. Prior to the merger of Biogen and Idec Pharmaceutical Corporation, Mr. Clancy

was the vice president of portfolio management at Biogen. He joined Biogen in 2001 as vice president of U.S. marketing. Before Biogen, Mr. Clancy spent 13 years at PepsiCo Inc., a food and beverage company, serving in a variety of finance, strategy, and general management positions. Mr. Clancy serves as a member of the board of directors of Agios Pharmaceuticals, Inc. and Incyte Corporation, each a pharmaceutical company, and serves on the board of Exact Sciences Corporation, a cancer diagnostics company. Mr. Clancy is a Senior Visiting Lecturer of Finance at Cornell University's Graduate School of Business. Mr. Clancy received his B.S. in business administration from Babson College and an M.B.A. from Columbia Business School. We believe Mr. Clancy is qualified to serve on our board of directors because of his extensive financial and executive leadership experience at large multi-national companies.

**Daniel Curran, M.D.** has served as a member of our board of directors since December 2020. He has more than 20 years of pharmaceutical experience in strategy, business development, project leadership and development roles. Since 2008, Dr. Curran has held roles of increasing responsibility at Takeda Pharmaceutical Company Ltd., or Takeda, a pharmaceutical company, and most recently serves as a senior vice president and the head of the rare genetics and hematology therapeutic area unit. Prior to Takeda, he served as vice president, corporate development at Millennium Pharmaceuticals, Inc., or Millennium, a wholly owned subsidiary of Takeda, from June 1999 to 2008. Prior to Millennium, Dr. Curran held a business development role in the product planning and acquisition group at DuPont Merck Pharmaceuticals, a pharmaceutical company. Dr. Curran has served on the board of directors of Stargazer Pharmaceuticals, Inc., a private ophthalmic biotechnology company, since 2019. Dr. Curran received an M.D. from the University of Pennsylvania School of Medicine, an M.B.A. from The Wharton School of the University of Pennsylvania and a B.S. in chemistry from King's College. We believe Dr. Curran is qualified to serve on our board of directors because of his diverse experience in the life sciences industry.

**David Gardner** has served as a member of our board of directors since February 2021. Since May 2015, Mr. Gardner has served as a senior member of the investment team at Rock Springs Capital Management LP, an investment firm focused on the healthcare sector. Prior to that, he was a vice president and research analyst at BlackRock, Inc. (and its predecessor company Merrill Lynch Investment Managers), a global asset management firm, from August 2005 until May 2015. Mr. Gardner received a B.S. in Commerce from the University of Virginia and an M.B.A. from Columbia University. We believe Mr. Gardner is qualified to serve on our board of directors because of his experience in venture capital in the life sciences industry. We anticipate that Mr. Gardner will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

**David Grayzel, M.D.** has served as a member of our board of directors since January 2018. Dr. Grayzel has been a partner at Atlas Venture, or Atlas, a venture capital fund, since April 2014. Since joining Atlas, Dr. Grayzel co-founded and served as chief executive officer of Arteaus Therapeutics, LLC, a biotechnology company, from June 2011 until it was acquired by Eli Lilly and Company in January 2014, served as co-founder and chief executive officer of Annovation Biopharma, Inc., a biotechnology company, from May 2011 until it was acquired by The Medicines Company in February 2015, and a founding board member of Delinia, Inc., a biotechnology company, from September 2015 until it was acquired by Celgene in January 2017. He is a co-founder, served as chief executive officer from April 2014 to May 2015, and is currently a member of the board of directors of Surface Oncology. He is also a board member of Aerovate Therapeutics and Santi, both biotechnology companies, and Affinia Therapeutics, a gene therapy company. Previously, Dr. Grayzel was a member of the executive team at Infinity Pharmaceuticals, Inc., a biopharmaceutical company, as the head of clinical development. He serves on the board of Acera School, Inc. (The Massachusetts School for Science, Creativity, and Leadership). Dr. Grayzel also serves as an advisor to several organizations including Memorial Sloan Kettering Cancer Center's (MSKCC) Technology Development Fund, the American Heart Association's One Brave Idea, and is on the Scientific Advisory Board of the Tri-TDI that includes Rockefeller University, MSKCC, and Cornell. Dr. Grayzel received a B.A. in Psychology from Stanford University, an M.D. from Harvard Medical School, and completed his internship and residency training in Internal Medicine at Massachusetts General Hospital. We believe that Dr. Grayzel is qualified to serve on our board of directors because of his experience in management and venture capital in the biopharmaceutical industry. We anticipate that Dr. Grayzel will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

**Andrew Hack, M.D., Ph.D.** has served as a member of our board of directors since February 2021. Since March 2019, Dr. Hack has served as a managing director of Bain Capital Life Sciences, a private equity fund

that invests in biopharmaceutical, specialty pharmaceutical, medical device, diagnostics, and enabling life science technology companies globally, and since August 2020 has served as chief financial officer and a member of the board of directors of BCLS Acquisition Corp., a special purpose acquisition company sponsored by an affiliate of Bain Capital Life Sciences. Dr. Hack served as chief financial officer of Editas Medicine, Inc., or Editas, a biotechnology company, from July 2015 to March 2019. Prior to joining Editas, from May 2011 to June 2015, Dr. Hack was a portfolio manager at Millennium Management LLC, or Millennium, an institutional asset manager, where he ran a healthcare fund focused on biotechnology, pharmaceutical, medical device and diagnostics, and life science tools companies. Before joining Millennium, Dr. Hack was a securities analyst at a number of healthcare-focused hedge funds and investment banks in New York. Previously, Dr. Hack was director of life sciences at Reify Corporation, a life science tools and drug discovery company. Dr. Hack serves as a director of Mersana Therapeutics, Inc., a biotechnology company, Dynavax Technologies Corporation, a biopharmaceutical company, and Nuvalent, Inc., a biopharmaceutical company. Previously, Dr. Hack served as a director of Atea Pharmaceuticals, Inc. and Allena Pharmaceuticals, Inc., each a biopharmaceutical company. Dr. Hack received his B.A. in biology with special honors from the University of Chicago, where he also received his M.D. and Ph.D. We believe Dr. Hack is qualified to serve on our board of directors because of his financial background and extensive and diverse experience in the life sciences industry. We anticipate that Dr. Hack will resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

**Rachel Humphrey, M.D.** has served as a member of our board of directors since December 2019. Dr. Humphrey served as chief medical officer at Black Diamond Therapeutics, Inc., or Black Diamond, a biotechnology company, from September 2020 to August 2021. Prior to joining Black Diamond, she served as chief medical officer at Treadwell Therapeutics, Inc., a biotechnology company, and head of research and development at TIO Bioventures, a venture capital firm, from January 2020 to May 2020. Prior to that, Dr. Humphrey served as SVP, chief medical officer at CytomX Therapeutics, Inc., or CytomX, a biopharmaceutical company, from August 2015 to September 2019. Prior to joining CytomX, Dr. Humphrey served as SVP, head of immuno-oncology at AstraZeneca plc, a pharmaceutical company, from November 2013 to December 2014, chief medical officer at Mirati Therapeutics, Inc., a biopharmaceutical company, from January 2012 to September 2013, and roles of increasing responsibility at Bristol-Myers Squibb, a pharmaceutical company, from May 2003 to January 2012. She also served as director, global clinical leader of research and development at Bayer AG, a pharmaceutical company, from January 1997 to May 2003. Dr. Humphrey received an M.D. from Case Western Reserve University School of Medicine. We believe Dr. Humphrey is qualified to serve on our board of directors because of her experience as a senior executive of several life sciences companies and knowledge of the life sciences industry.

**Michael Ross, Ph.D.** has served as a member of our board of directors since February 2020. Since 2002, Dr. Ross has served as managing partner at SV Health Investors fka SV Life Sciences, an investment firm focused on healthcare investing. Prior to joining SV Health, Mike held various positions including serving as CEO of several private biotechnology companies and as a Vice President at Genentech, Inc., a public biotechnology company, from 1978 to 1990. Dr. Ross received a Ph.D. from Caltech. Dr. Ross has served on the board of directors of a number of private and public biotechnology companies. We believe Dr. Ross is qualified to serve on our board of directors because of his experience in venture capital in the life sciences industry.

**Christina Rossi** has served as a member of our board of directors since April 2021. Since October 2018, Ms. Rossi has served as chief commercial officer of Blueprint Medicines Corporation, a biopharmaceutical company. From January 2016 to October 2018, Ms. Rossi served as the Multiple Sclerosis business unit head, North America, at Sanofi Genzyme, or Sanofi, a biotechnology company. Previously, Ms. Rossi served as vice president, Multiple Sclerosis Sales at Sanofi from May 2014 to December 2015 and vice president, Multiple Sclerosis Patient and Provider Services at Sanofi from June 2012 to May 2014. Prior to joining Sanofi, Ms. Rossi served in various roles at Biogen, including head, commercial strategy for Eidetica Biopharma GmbH, Biogen's biosimilar-focused venture, and U.S. brand leader for TYSABRI® (natalizumab). In addition, Ms. Rossi consulted in the healthcare practice at the Boston Consulting Group. Ms. Rossi holds a B.S. in biology, cum laude, from Duke University and an M.B.A. from Harvard Business School. We believe Ms. Rossi is qualified to serve on our board of directors because of her experience as a senior executive of several life sciences companies and knowledge of the life sciences industry.

## **Board Composition**

### ***Board Composition***

As of September 30, 2021, our board of directors consisted of 11 members. Effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, the number of seats on our board of directors will be fixed at eight directors following the expected resignations of Mr. Gardner and Drs. Grayzel and Hack. Our directors hold office until their successors have been elected and qualified or until the earlier of their death, resignation or removal.

Our certificate of incorporation and bylaws that will become effective upon the closing of this offering provide that the authorized number of directors may be changed only by resolution of our board of directors. Our certificate of incorporation and bylaws will also provide that our directors may be removed only for cause by the affirmative vote of the holders of 75% of our shares of capital stock present in person or by proxy and entitled to vote, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

In accordance with the terms of our certificate of incorporation and bylaws that will become effective upon the closing of this offering, our board of directors will be divided into three classes, class I, class II and class III, with members of each class serving staggered three-year terms. Upon the closing of this offering, the members of the classes will be divided as follows:

- the class I directors will be Daniel Lynch, René Russo and Sara Bonstein and their term will expire at the annual meeting of stockholders to be held in 2022;
- the class II directors will be Rachel Humphrey and Dan Curran and their term will expire at the annual meeting of stockholders to be held in 2023; and
- the class III directors will be Paul Clancy, Christy Rossi and Mike Ross and their term will expire at the annual meeting of stockholders to be held in 2024.

Upon the expiration of the term of a class of directors, directors in that class will be eligible to be elected for a new three-year term at the annual meeting of stockholders in the year in which their term expires.

The classification of our board of directors may have the effect of delaying or preventing changes in our control or management. See “Description of Capital Stock—Delaware Anti-Takeover Law and Certain Charter and Bylaw Provisions.”

### ***Director Independence***

The Nasdaq Stock Market LLC, or Nasdaq, Marketplace Rules, or the Nasdaq Listing Rules require a majority of a listed company’s board of directors to be comprised of independent directors within one year of listing. In addition, the Nasdaq Listing Rules require that, subject to specified exceptions, each member of a listed company’s audit, compensation and nominating and corporate governance committees be independent under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under applicable Nasdaq rules, a director will only qualify as an “independent director” if, in the opinion of the listed company’s board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors or any other board committee, accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the board must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director’s ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: (1) the source of compensation of the director, including any consulting advisory



or other compensatory fee paid by such company to the director; and (2) whether the director is affiliated with the company or any of its subsidiaries or affiliates.

In September 2021, our board of directors undertook a review of the composition of our board of directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that each of our directors, with the exception of Dr. Russo, is an “independent director” as defined under applicable Nasdaq rules, including, in the case of all the members of our audit committee, the independence criteria set forth in Rule 10A-3 under the Exchange Act, and in the case of all the members of our compensation committee, the independence criteria set forth in Rule 10C-1 under the Exchange Act. In making such determination, our board of directors considered the relationships that each such non-employee director has with our company and all other facts and circumstances that our board of directors deemed relevant in determining his or her independence, including the beneficial ownership of our capital stock by each non-employee director. Dr. Russo is not an independent director under these rules because she is our president and chief executive officer.

There are no family relationships among any of our directors or executive officers.

#### **Role of the Board in Risk Oversight**

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through the board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure, including cybersecurity risk, and our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The audit committee also monitors compliance with legal and regulatory requirements.

#### **Board Committees**

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee, each of which will operate under a charter to be adopted by our board of directors. The composition of each committee will be effective as of the date of this prospectus.

#### ***Audit Committee***

The members of our audit committee are Paul Clancy, Michael Ross and Sara Bonstein. Mr. Clancy is the chair of the audit committee. Upon the effectiveness of the registration statement of which this prospectus is a part, our audit committee’s responsibilities will include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of reports from that firm;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- overseeing our internal audit function;
- overseeing our risk assessment and risk management policies;
- establishing policies regarding hiring employees from our independent registered public accounting firm and procedures for the receipt and retention of accounting-related complaints and concerns;
- meeting independently with our internal auditing staff, if any, our independent registered public accounting firm and management;

- reviewing and approving or ratifying any related person transactions; and
- preparing the audit committee report required by Securities and Exchange Commission, or SEC, rules.

All audit and non-audit services, other than *de minimis* non-audit services, to be provided to us by our independent registered public accounting firm must be approved in advance by our audit committee.

Our board of directors has determined that each of Mr. Clancy and Ms. Bonstein is an “audit committee financial expert” as defined in applicable SEC rules. We believe that the composition of our audit committee will meet the requirements for independence under current Nasdaq and SEC rules and regulations. Our board of directors has also determined that each member of our audit committee can read and understand fundamental financial statements, in accordance with applicable requirements. In arriving at these determinations, the board of directors has examined each audit committee member’s scope of experience and the nature of their employment in the corporate finance sector.

#### **Compensation Committee**

The members of our compensation committee are Daniel Lynch, Paul Clancy and Christina Rossi. Mr. Lynch is the chair of the compensation committee. Upon the effectiveness of the registration statement of which this prospectus is a part, our compensation committee’s responsibilities will include:

- reviewing and approving, or making recommendations to our board of directors with respect to, the compensation of our chief executive officer and our other executive officers;
- overseeing an evaluation of our senior executives;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to our board of directors with respect to director compensation;
- reviewing and discussing annually with management our “Compensation Discussion and Analysis” disclosure if and to the extent then required by SEC rules; and
- preparing the compensation committee report if and to the extent then required by SEC rules.

We believe that the composition of our compensation committee will meet the requirements for independence under current Nasdaq and SEC rules and regulations.

#### **Nominating and Corporate Governance Committee**

The members of our nominating and corporate governance committee are Daniel Lynch, Rachel Humphrey and Daniel Curran. Mr. Lynch is the chair of the nominating and corporate governance committee. Upon the effectiveness of the registration statement of which this prospectus is a part, our nominating and corporate governance committee’s responsibilities will include:

- recommending to our board of directors the persons to be nominated for election as directors and to each of our board’s committees;
- reviewing and making recommendations to our board with respect to our board leadership structure;
- reviewing and making recommendations to our board with respect to management succession planning;
- developing and recommending to our board of directors corporate governance principles; and
- overseeing a periodic evaluation of our board of directors.

We believe that the composition of our nominating and corporate governance committee will meet the requirements for independence under current Nasdaq and SEC rules and regulations.

#### **Compensation Committee Interlocks and Insider Participation**

None of our executive officers serves, or in the past year has served, as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our board of directors or our compensation committee. None of the members of our compensation committee is, or has ever been, an officer or employee of our company.

**Code of Ethics and Code of Conduct**

We have adopted a written code of business conduct and ethics, which will be effective upon the effectiveness of the registration statement of which this prospectus is a part, that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. We intend to post a current copy of the code on our website, [www.xiliotx.com](http://www.xiliotx.com). In addition, we intend to post on our website all disclosures that are required by law or Nasdaq listing standards concerning any amendments to, or waivers from, any provision of the code.

## EXECUTIVE COMPENSATION

The following discussion relates to the compensation of René Russo, Pharm.D., our president and chief executive officer, Joseph Farmer, our former chief operating officer, and Martin Huber, M.D., our chief medical officer, for the year ended December 31, 2020. Dr. Russo, Mr. Farmer and Dr. Huber are collectively referred to in this prospectus as our named executive officers. Mr. Farmer resigned as our chief operating officer in March 2021.

In preparing to become a public company, we have begun a thorough review of all elements of our executive compensation program, including the function and design of our equity incentive programs. We have begun, and expect to continue in the coming months, to evaluate the need for revisions to our executive compensation program to ensure that our program is competitive with the companies with which we compete for executive talent and is appropriate for a public company. This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs.

### Summary Compensation Table

The following table sets forth information regarding compensation awarded to, earned by or paid to each of our named executive officers for the year ended December 31, 2020.

Name and Principal Position	Year	Salary (\$)	Stock awards (\$) <sup>(1)</sup>	Option awards (\$) <sup>(1)</sup>	Non-equity incentive plan compensation (\$)	All other compensation (\$) <sup>(2)</sup>	Total (\$)
René Russo, Pharm.D. <i>President and Chief Executive Officer</i>	2020	450,000	1,020,866	854,485	182,250	3,448	2,511,049
Joseph Farmer <i>Former Chief Operating Officer</i> <sup>(3)</sup>	2020	350,000	289,997	264,277	126,000	3,528	1,033,802
Martin Huber, M.D. <i>Chief Medical Officer</i> <sup>(4)</sup>	2020	301,467	—	501,101	159,120	3,217	964,905

(1) The amounts reported in the “Stock awards” and “Option awards” columns reflect the aggregate fair value of incentive units, restricted stock and stock options awarded during the year computed in accordance with the provisions of Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718. Shares of restricted stock issued in exchange for incentive units that were awarded prior to 2020 as part of the Reorganization have been excluded from the “Stock awards” column. See Note 14 to our consolidated financial statements appearing elsewhere in this prospectus regarding assumptions underlying the valuation of equity awards.

(2) The amount reported for Dr. Russo includes health and life insurance premiums (\$1,933) and phone and parking reimbursements (\$1,515). The amount reported for Mr. Farmer includes health and life insurance premiums (\$1,933) and phone and parking reimbursements (\$1,595). The amount reported for Dr. Huber includes health and life insurance premiums (\$2,417) and phone reimbursement (\$800).

(3) Mr. Farmer resigned as our chief operating officer in March 2021.

(4) Dr. Huber commenced his employment with us as our chief medical officer in April 2020.

### Narrative to Summary Compensation Table

**Base Salary.** In 2020, we paid Dr. Russo a base salary of \$450,000. In 2020, we paid Mr. Farmer a base salary of \$350,000. Dr. Huber commenced employment with us in April 2020 and during 2020, we paid Dr. Huber an annualized base salary of \$442,000.

We use base salaries to recognize the experience, skills, knowledge and responsibilities required of all our employees, including our named executive officers. None of our named executive officers is currently party to a letter agreement or other agreement or arrangement that provides for automatic or scheduled increases in base salary.

**Annual Bonus.** Our board of directors may, in its discretion, award bonuses to our named executive officers from time to time. Our letter agreements with our named executive officers provide that they will be eligible for annual performance-based bonuses up to a specified percentage of their salary, subject to approval by our board of directors. We typically establish annual bonus targets based on a set of specified corporate goals for

our named executive officers and conduct an annual performance review to determine the attainment of such goals. Our management may propose bonus awards to our compensation committee primarily based on such review process. Our board of directors makes the final determination of the eligibility requirements for and the amount of such bonus awards based on the recommendation of the compensation committee. The final evaluation made by our board of directors does not involve a predetermined mathematical formula.

For 2020, the categories of corporate goals that we used to propose performance-based bonuses to our compensation committee included advancing the company's programs and product candidates, funding efforts and business development. Based on our achievement or partial achievement, on or before our projected timeline, of specific goals within each category, our board of directors determined that we achieved 90% of the specified corporate goals. Our board of directors approved performance-based bonuses for our named executive officers upon consideration of these corporate achievements, along with subjective factors related to each named executive officer's individual performance.

With respect to 2020, our board of directors awarded bonuses of \$182,250, \$126,000 and \$159,120 to Dr. Russo, Mr. Farmer and Dr. Huber, respectively, in each case based on an assessment of each named executive officer's performance and business conditions at our company, with such amounts representing 90% of each such officer's bonus target.

*Equity Incentives.* Although we do not have a formal policy with respect to the grant of equity incentive awards to our executive officers, or any formal equity ownership guidelines applicable to them, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interests of our executives and our stockholders. In addition, we believe that equity grants with a time-based vesting feature promote executive retention because this feature incents our executive officers to remain in our employment during the vesting period. Accordingly, our board of directors periodically reviews the equity incentive compensation of our executive officers, including our named executive officers, and from time to time may grant equity incentive awards to them in the form of stock options.

In July 2020, we granted options to purchase 68,872 and 170,830 shares of our common stock to Dr. Russo at an exercise price of \$5.51 per share. These options vest in equal monthly installments over 48 months from the vesting commencement dates of May 15, 2019 and March 12, 2020, respectively, subject to continued service and further subject to the accelerated vesting schedule specified in Dr. Russo's letter agreement. In July 2020, we granted options to purchase 25,826 and 48,528 shares of our common stock to Mr. Farmer at an exercise price of \$5.51 per share with a vesting commencement date of May 28, 2019 and March 12, 2020, respectively. These options vest (i) as to 25% of the shares underlying the option on the first anniversary of the applicable vesting commencement date and in equal monthly installments over the following 36 months, subject to the accelerated vesting schedule specified in Mr. Farmer's letter agreement and (ii) in equal monthly installments over 48 months, subject to the accelerated vesting schedule specified in Mr. Farmer's letter agreement, respectively, in each case, subject to continued service. Also in July 2020, we granted options to purchase 134,796 shares of our common stock to Dr. Huber at an exercise price of \$5.51 per share. These options vested as to 25% of the shares underlying the option on April 27, 2021, with the remainder vesting in equal monthly installments over the following 36 months, subject to continued service and further subject to the accelerated vesting schedule specified in Dr. Huber's letter agreement.

Prior to this offering, our executive officers were eligible to participate in our 2020 Stock Incentive Plan, as amended, or the 2020 Plan. Through the effectiveness of the registration statement of which this prospectus forms a part, all stock options were granted pursuant to the 2020 Plan. In connection with the Reorganization, we granted shares of restricted stock to our executive officers in exchange for each executive officer's existing award of incentive units. Following this offering, our employees and executive officers will be eligible to receive stock options and other equity awards pursuant to our 2021 Stock Incentive Plan, or the 2021 Plan.

We use stock options to compensate our executive officers in the form of initial grants in connection with the commencement of employment. Prior to this offering, awards of stock options and restricted stock to our executive officers have been made by our board of directors or a committee delegated by our board of directors. The options and restricted stock that we have granted to our executive officers are typically subject to time-based vesting, generally over four years following the vesting commencement date. Upon certain terminations of employment in connection with a change of control, vesting is fully accelerated. Prior to the

exercise of a stock option, the holder has no rights as a stockholder with respect to the shares subject to such option, including no voting rights and no right to receive dividends or dividend equivalents.

We award stock options with exercise prices that are equal to the fair market value of our common stock on the date of grant as determined by our board of directors.

#### Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information regarding all outstanding equity awards for each of our named executive officers as of December 31, 2020.

Name	Option awards				Stock awards	
	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price (\$)	Option expiration date	Number of shares of stock that have not vested (#)	Market value of shares or units of stock that have not vested (\$) <sup>(1)</sup>
René Russo, Pharm.D.	35,589	135,241 <sup>(2)</sup>	\$5.51	7/22/2030	89,696 <sup>(3)</sup>	1,524,832
	28,696	40,175 <sup>(4)</sup>	\$5.51	7/22/2030	50,944 <sup>(5)</sup>	866,048
Joseph Farmer	10,109	38,418 <sup>(2)(6)</sup>	\$5.51	7/22/2030	25,480 <sup>(6)(7)</sup>	433,160
	10,222	15,603 <sup>(6)(8)</sup>	\$5.51	7/22/2030	19,786 <sup>(6)(9)</sup>	336,362
Martin Huber, M.D.	—	134,796 <sup>(10)</sup>	\$5.51	7/22/2030	—	—

(1) The market value of the unvested incentive stock awards is based on an assumed initial public offering price of \$17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus.

(2) This option vests over four years, in equal monthly installments through February 12, 2024, subject to continued service. The vesting of this option award will accelerate upon a qualifying termination of Dr. Russo's or Mr. Farmer's employment, as applicable.

(3) 284,131 incentive units were awarded to Dr. Russo on March 12, 2020. In connection with the Reorganization, these incentive units were exchanged for 113,301 shares of restricted common stock. The shares vest over four years, in equal monthly installments from the vesting commencement date of March 12, 2020 through February 12, 2024, subject to continued service. The vesting of this stock award will accelerate upon a qualifying termination of Dr. Russo's employment.

(4) This option vests over four years, in equal monthly installments from the vesting commencement date of May 15, 2019 through April 15, 2023, subject to continued service. The vesting of this option award will accelerate upon a qualifying termination of Dr. Russo's employment.

(5) 156,204 incentive units were awarded to Dr. Russo on June 14, 2019. In connection with the Reorganization, these incentive units were exchanged for 87,332 shares of restricted common stock. The shares vest over four years, in equal monthly installments from the vesting commencement date of May 15, 2019 through April 15, 2023, subject to continued service. The vesting of this stock award will accelerate upon a qualifying termination of Dr. Russo's employment.

(6) Mr. Farmer resigned as our chief operating officer in March 2021 and entered into a consulting agreement with us at the time of his departure. As a consequence, all of the equity awards granted to Mr. Farmer during his employment with us continue to vest during the period during which he provides consulting services and are exercisable in accordance with the terms of the agreements governing such equity awards.

(7) 80,713 incentive units were awarded to Mr. Farmer on March 12, 2020. In connection with the Reorganization, these incentive units were exchanged for 32,185 shares of restricted common stock. The shares vest over four years, in equal monthly installments through February 12, 2024, subject to continued service.

(8) This option vests over four years, with 25% of the shares vested on May 28, 2020 and the remaining number of shares vesting thereafter in equal monthly installments from the vesting commencement date of March 12, 2020 through May 28, 2023, subject to continued service.

(9) 58,576 incentive units were awarded to Mr. Farmer on June 14, 2019. In connection with the Reorganization, these incentive units were exchanged for 32,749 shares of restricted common stock. 25% of the shares vested on May 28, 2020 and the remaining number of shares vest thereafter in equal monthly installments through May 28, 2023, subject to continued service.

(10) This option vests over four years, with 25% of the shares vested on April 27, 2021 and the remaining number of shares vesting thereafter in equal monthly installments through April 27, 2024, subject to continued service. The vesting of this option award will accelerate upon a qualifying termination of Dr. Huber's employment.

#### Employment Agreements

##### Letter Agreement with René Russo, Pharm.D.

In connection with Dr. Russo's continued service as our president and chief executive officer following this offering, we entered into a letter agreement with her dated as of September 30, 2021. Under the terms of the

letter agreement, Dr. Russo is an “at-will” employee, and her employment with us can be terminated by Dr. Russo or us at any time and for any reason. The letter agreement provides that Dr. Russo is entitled to an annual base salary of \$575,000, and that she is eligible, at our sole discretion, to earn an annual bonus of up to 55% of her base salary. Except in the event of certain involuntary terminations of Dr. Russo’s employment as described below, Dr. Russo must be an employee in good standing on the last day of the applicable bonus year in order to be eligible for any annual bonus.

Dr. Russo’s letter agreement also provides that, subject to and effective on our agreement to a price to the public in this offering, Dr. Russo shall be granted an option to purchase 50,041 shares of our common stock pursuant to the terms and provisions of our 2021 Stock Incentive Plan, with such option having an exercise price equal to the price per share at which the common stock is to be sold to the public in the offering and being subject to such terms and conditions as our board of directors shall approve.

Under the letter agreement, subject to Dr. Russo’s execution and non-revocation of a release of claims in our favor, in the event of the termination of her employment by us without cause or by her for good reason (each as defined in Dr. Russo’s letter agreement), Dr. Russo is entitled to (i) continued payment of her base salary for 12 months, (ii) a lump sum payment of her target bonus for the year of termination, pro-rated for the portion of the year during which she was employed by us, regardless of whether the metrics have been established or achieved (with the continued base salary and pro-rata bonus payment reduced by any amounts Dr. Russo is entitled to under a restrictive covenants agreement between her and us) and (iii) payment by us of the portion of the COBRA premiums for health benefits coverage on the same terms as were applicable to her prior to her termination until the earliest of (A) a period of 12 months following the date that her employment with us is terminated, (B) if she becomes eligible to enroll in a health benefit plan with a new employer or (C) the cessation of her continuation rights under COBRA.

In addition, in the event that Dr. Russo’s employment is terminated by us without cause or by Dr. Russo for good reason within 12 months following a change in control (as defined in the letter agreement), Dr. Russo is entitled to (i) continued payment of her then-current base salary for 18 months, (ii) a lump sum payment of 150% of the target annual bonus for the year of termination in which such termination occurred, regardless of whether the metrics have been established or achieved (with the continued base salary and pro-rata bonus payment reduced by any amounts Dr. Russo is entitled to under a restrictive covenants agreement between her and us), (iii) payment by us of the portion of the COBRA premiums for health benefits coverage on the same terms as were applicable to her prior to her termination until the earliest of (A) a period of 18 months following the date that her employment with us is terminated, (B) if she becomes eligible to enroll in a health benefit plan with a new employer or (C) the cessation of her continuation rights under COBRA and (iv) the automatic vesting and exercisability of any unvested equity awards that are subject to time-based vesting conditions then held by her on the later date of when her employment with us is terminated or the effective date of the separation agreement and release, which awards will remain exercisable for the time period set forth in the applicable grant agreement, provided that equity awards that Dr. Russo held prior to this offering that contain more favorable acceleration terms will remain subject to the terms of those awards and not the acceleration granted under her letter agreement. Under Dr. Russo’s letter agreement, if the payments and benefits payable to Dr. Russo in connection with a change in control are subject to Section 4999 of the Code, then such payments and benefits will either be paid in full or be reduced so that the Section 4999 excise tax does not apply, whichever results in the better after-tax result for Dr. Russo.

In the event that Dr. Russo’s employment is terminated for any reason other than by us without cause or by Dr. Russo for good reason, then Dr. Russo will be entitled to (i) her then-current base salary and any accrued by unused vacation through her last day of employment, (ii) the amount of any documented expenses properly incurred by her on behalf of the Company prior to any such termination and not yet reimbursed and (iii) amounts or benefits to which Dr. Russo is then entitled under the terms of the benefits plans in accordance with their terms.

***Letter Agreement with Martin Huber, M.D.***

In connection with Dr. Huber’s continued service as our president of R&D and chief medical officer following this offering, we entered into a letter agreement with him dated as of September 30, 2021. Under the letter agreement, Dr. Huber is an “at-will” employee, and his employment with us can be terminated by Dr. Huber or us at any time and for any reason. The letter agreement provides that Dr. Huber is entitled to an annual base

salary of \$475,000, and that he is eligible, at our sole discretion, to earn an annual bonus of 45% of his base salary. Except in the event of certain involuntary terminations of Dr. Huber's employment as described below, Dr. Huber must be an employee in good standing on the last day of the applicable bonus year in order to be eligible for any annual bonus.

Dr. Huber's letter agreement also provides that, subject to and effective on our agreement to a price to the public in this offering, Dr. Huber shall be granted an option to purchase 157,058 shares of our common stock pursuant to the terms and provisions of our 2021 Stock Incentive Plan, with such option having an exercise price equal to the price per share at which our common stock is sold to the public in this offering and subject to such other terms and conditions as our board of directors shall approve.

Under the letter agreement, subject to Dr. Huber's execution and non-revocation of a release of claims in our favor, in the event of the termination of his employment by us without cause or by him for good reason (each as defined in Dr. Huber's letter agreement), Dr. Huber is entitled to (i) continued payment of his base salary for nine months, (ii) a lump sum payment of his target bonus for the year of termination, pro-rated for the portion of the year during which he was employed by us, regardless of whether the metrics have been established or achieved (with the continued base salary and pro-rata bonus payment reduced by any amounts Dr. Huber is entitled to under a restrictive covenants agreement between him and us) and (iii) payment by us of the portion of the COBRA premiums for health benefits coverage on the same terms as were applicable to him prior to his termination until the earliest of (A) a period of nine months following the date that his employment with us is terminated, (B) if he becomes eligible to enroll in a health benefit plan with a new employer or (C) the cessation of his continuation rights under COBRA.

In addition, in the event that Dr. Huber's employment is terminated by us without cause or by Dr. Huber for good reason within 12 months following a change in control (as defined in the letter agreement), Dr. Huber is entitled to (i) continued payment of his then-current base salary for 12 months, (ii) a lump sum payment of 100% of the target annual bonus for the year of termination in which such termination occurred, regardless of whether the metrics have been established or achieved (with the continued base salary and pro-rata bonus payment reduced by any amounts Dr. Huber is entitled to under a restrictive covenants agreement between him and us), (iii) payment by us of the portion of the COBRA premiums for health benefits coverage on the same terms as were applicable to him prior to his termination until the earliest of (A) a period of 12 months following the date that his employment with us is terminated, (B) if he becomes eligible to enroll in a health benefit plan with a new employer or (C) the cessation of his continuation rights under COBRA and (iv) the automatic vesting and exercisability of any unvested equity awards that are subject to time-based vesting conditions then held by him on the later date of when his employment with us is terminated or the effective date of the separation agreement and release, which awards will remain exercisable for the time period set forth in the applicable grant agreement, provided that equity awards that Dr. Huber held prior to this offering that contain more favorable acceleration terms will remain subject to the terms of those awards and not the acceleration granted under his letter agreement. Under Dr. Huber's letter agreement, if the payments and benefits payable to Dr. Huber in connection with a change in control are subject to Section 4999 of the Code, then such payments and benefits will either be paid in full or be reduced so that the Section 4999 excise tax does not apply, whichever results in the better after-tax result for Dr. Huber.

In the event that Dr. Huber's employment is terminated for any reason other than by us without cause or by Dr. Huber for good reason, then Dr. Huber will be entitled to (i) his then-current base salary and any accrued by unused vacation through his last day of employment, (ii) the amount of any documented expenses properly incurred by him on behalf of us prior to any such termination and not yet reimbursed and (iii) amounts or benefits to which Dr. Huber is then entitled under the terms of the benefits plans in accordance with their terms.

***Letter Agreement with Joseph Farmer***

In connection with our initial hiring of Mr. Farmer as our chief operating officer, we entered into a letter agreement with him dating May 24, 2019. Under the letter agreement, Mr. Farmer was an at-will employee, and his employment with us could be terminated by Mr. Farmer or us at any time for any reason. The letter agreement provided that Mr. Farmer was entitled to a base salary of \$350,000 during his employment with us and that he was eligible, at our sole discretion, to earn an annual bonus of up to 40% of his base salary. Mr. Farmer's letter agreement also provided that he was entitled to an award of 58,576 incentive units of Xilio



LLC, subject to a four-year vesting schedule and continued employment, which award was granted on June 14, 2019. In connection with the Reorganization, these incentive units were exchanged for 32,749 shares of common stock. Mr. Farmer resigned as our chief operating officer in March 2021. Mr. Farmer continues to serve as a consultant to the company, subject to the terms discussed below.

***Consulting Agreement with Joseph Farmer***

In connection with Mr. Farmer's resignation as our chief operating officer in March 2021, we entered into a consulting agreement with Mr. Farmer pursuant to which he agreed to provide certain consulting and advisory services related to the company's finances until November 30, 2021. As consideration for those consulting services, all of the equity awards granted to Mr. Farmer during his employment with us continue to vest during the period during which he provides consulting services and are exercisable in accordance with the terms of the agreements governing such equity awards.

***Employee Non-Competition, Non-Solicitation, Confidentiality and Assignment of Inventions Agreements***

Each of our executive officers has entered into a standard form of agreement with respect to non-competition, non-solicitation, confidential information and assignment of inventions. Under this agreement, each executive officer has agreed not to compete with us during his or her employment and for a period of 6 months after the termination of his or her employment, not to solicit our employees, consultants, customers, prospective customers or suppliers during his or her employment for a period of 6 months after the termination of his or her employment, and to protect our confidential and proprietary information indefinitely. In addition, under this agreement, each executive officer has agreed that we own all inventions that are developed by such executive officer during his or her employment with us that are made, conceived, discovered or developed by the executive officer, or result from or are suggested by any work performed by the executive officer for or on our behalf. Each executive officer also has agreed to provide us with a worldwide, nonexclusive, royalty-free, irrevocable, perpetual, transferable and sublicenseable (through multiple tiers) license to use any prior inventions that such executive officer incorporates into inventions assigned to us under this agreement.

***Stock Option and Other Compensation Plans***

In this section we describe our 2020 Plan, our 2021 Plan and our 2021 Employee Stock Purchase Plan, or the 2021 ESPP. Prior to this offering, we granted awards to eligible participants under the 2020 Plan. Following the effectiveness of the 2021 Plan, we expect to grant awards to eligible participants from time to time only under the 2021 Plan.

***2020 Stock Incentive Plan***

The 2020 Plan was initially approved by our board of directors and stockholders in June 2020 and was subsequently amended in January 2021, February 2021 and June 2021, in each case, to increase the total number of shares reserved for issuance under the plan. The 2020 Plan provides for the grant of incentive stock options, nonstatutory options, stock appreciation rights, awards of restricted stock, restricted stock units and other stock-based awards. Our employees, officers, directors, consultants and advisors are eligible to receive awards under the 2020 Plan; however, incentive stock options may only be granted to our employees. The type of award granted under the 2020 Plan and the terms of such award are set forth in the applicable award agreement. Pursuant to the terms of the 2020 Plan, our board of directors (or a committee delegated by our board of directors) administers the plan and, subject to any limitations in the plan, selects the recipients of awards and determines:

- the number of shares of our common stock covered by options and the dates upon which the options become exercisable;
- the type of options to be granted;
- the duration of options, which may not be in excess of ten years;
- the exercise price of options, which must be at least equal to the fair market value of our common stock on the date of grant; and

- the number of shares of our common stock subject to and the terms of any stock appreciation rights, restricted stock awards, restricted stock units or other stock-based awards and the terms and conditions of such awards, including conditions for repurchase, issue price and repurchase price (though the measurement price of stock appreciation rights must be at least equal to the fair market value of our common stock on the date of grant and the duration of such awards may not be in excess of ten years).

The maximum number of shares of common stock authorized for issuance under the 2020 Plan is 3,773,235 shares, plus up to 364,120 additional shares, which is the number of shares of restricted common stock issued as part of the Reorganization in exchange for incentive units in Xilio LLC, to the extent such shares have been or will be forfeited. Our board of directors may amend, suspend or terminate the 2020 Plan (or any portion of the 2020 Plan) at any time, except that stockholder approval may be required to comply with applicable law.

*Effect of Certain Changes in Capitalization*

Upon the occurrence of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of our common stock other than an ordinary cash dividend, under the terms of the 2020 Plan, we are required to equitably adjust (or make substitute awards, if applicable), in the manner determined by our board of directors:

- the number and class of securities available under the 2020 Plan;
- the number and class of securities and exercise price per share of each outstanding option;
- the share and per-share provisions and the measurement price of each outstanding stock appreciation right;
- the number of shares subject to and the repurchase price per share subject to each outstanding award of restricted stock; and
- the share and per-share-related provisions and the purchase price, if any, of each outstanding restricted stock unit award and other stock-based award.

*Effect of Certain Corporate Transactions*

Upon the occurrence of a merger or other reorganization event (as defined in the 2020 Plan), our board of directors may, on such terms as our board of directors determines (except to the extent specifically provided otherwise in an applicable award agreement or other agreement between the participant and us), take any one or more of the following actions pursuant to the 2020 Plan as to all or any (or any portion of) outstanding awards, other than awards of restricted stock:

- provide that outstanding awards will be assumed, or substantially equivalent awards will be substituted, by the acquiring or succeeding corporation (or an affiliate of the acquiring or succeeding corporation);
- upon written notice to a participant, provide that all of the participant's unexercised and/or unvested awards will terminate immediately prior to the consummation of the reorganization event unless exercised by the participant (to the extent then exercisable) within a specified period following the date of the notice;
- provide that outstanding awards will become exercisable, realizable or deliverable, or restrictions applicable to an award will lapse, in whole or in part, prior to or upon such reorganization event;
- in the event of a reorganization event pursuant to which holders of shares of our common stock will receive a cash payment for each share surrendered in the reorganization event, make or provide for a cash payment to participants with respect to each award held by a participant equal to (1) the number of shares of our common stock subject to the vested portion of the award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to the reorganization event) multiplied by (2) the excess, if any, of the cash payment for each share surrendered in the reorganization event over the exercise, measurement or purchase price of such award and any applicable tax withholdings, in exchange for the termination of the award;

- provide that, in connection with our liquidation or dissolution, awards will convert into the right to receive liquidation proceeds (if applicable, net of the exercise measurement or purchase price thereof and any applicable tax withholdings); or
- any combination of the foregoing.

Our board of directors is not obligated under the 2020 Plan to treat all awards, all awards held by a participant, or all awards of the same type, identically.

In the case of certain restricted stock units, no assumption or substitution is permitted, and the restricted stock units will instead be settled in accordance with the terms of the applicable restricted stock unit agreement.

Upon the occurrence of a reorganization event other than our liquidation or dissolution, our repurchase and other rights with respect to outstanding restricted stock awards will continue for the benefit of the succeeding company and will, unless our board of directors determines otherwise, apply to the cash, securities, or other property which our common stock was converted into or exchanged for in the reorganization event in the same manner and to the same extent as they applied to the common stock subject to the restricted stock award. However, our board of directors may provide for the termination or deemed satisfaction of such repurchase or other rights under the restricted stock award agreement or any other agreement between a participant and us, either initially or by amendment, or provide for forfeiture of such restricted stock if issued at no cost. Upon our liquidation or dissolution, except to the extent specifically provided to the contrary in the restricted stock award agreement or any other agreement between the plan participant and us, all restrictions and conditions on all restricted stock awards then outstanding will automatically be deemed terminated or satisfied.

Our board of directors may at any time provide that any award under the 2020 Plan will become immediately exercisable in whole or in part, free of some or all restrictions or conditions, or otherwise realizable in whole or in part, as the case may be.

As of September 30, 2021, there were options to purchase 3,391,136 shares of common stock outstanding under the 2020 Plan at a weighted average exercise price of \$7.03 per share, options to purchase 36,956 shares of our common stock had been exercised under the 2020 Plan and 429,109 shares of common stock were available for future issuance under the 2020 Plan. No further awards will be made under the 2020 Plan on or after the effectiveness of the registration statement for this offering; however, awards outstanding under the 2020 Plan will continue to be governed by their existing terms.

#### **2021 Stock Incentive Plan**

On September 10, 2021, our board of directors adopted, and on October 12, 2021, our stockholders approved, the 2021 Plan, which will become effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part. The 2021 Plan provides for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units and other stock-based awards. Upon effectiveness of the 2021 Plan, the number of shares of our common stock that will be reserved for issuance under the 2021 Plan will be the sum of: (1) 2,654,828; plus (2) the number of shares (up to 3,967,038 shares) as is equal to the sum of (x) the number of shares of our common stock reserved for issuance under the 2020 Plan that remain available for grant under the 2020 Plan immediately prior to the effectiveness of the registration statement of which this prospectus forms a part and (y) the number of shares of our common stock subject to outstanding awards whether granted under the 2020 Plan or outside of the 2020 Plan which awards expire, terminate or are otherwise surrendered, canceled, forfeited or repurchased by us at their original issuance price pursuant to a contractual repurchase right and that, prior to the effectiveness of the 2021 Plan, would have become available for issuance under the 2020 Plan; plus (3) an annual increase, to be added on the first day of each fiscal year, beginning with the fiscal year, commencing on January 1, 2022 and continuing until, and including, January 1, 2031, equal to the lesser of (i) 5% of the number of shares of our common stock outstanding on the first day of such fiscal year and (ii) the number of shares of common stock determined by our board of directors. Up to 5,309,656 of the shares of common stock available for issuance under the 2021 Plan may be issued as incentive stock options under the 2021 Plan, subject to adjustment under the terms of the 2021 Plan.

Our employees, officers, directors, consultants and advisors will be eligible to receive awards under the 2021 Plan. Incentive stock options, however, may only be granted to our employees.

Pursuant to the terms of the 2021 Plan, our board of directors (or a committee delegated by our board of directors) will administer the plan and, subject to any limitations in the plan, will select the recipients of awards and determine:

- the number of shares of our common stock covered by options and the dates upon which the options become exercisable;
- the type of options to be granted;
- the duration of options, which may not be in excess of ten years;
- the exercise price of options, which must be at least equal to the fair market value of our common stock on the date of grant; and
- the number of shares of our common stock subject to and the terms of any stock appreciation rights, restricted stock awards, restricted stock units or other stock-based awards and the terms and conditions of such awards, including conditions for repurchase, issue price and repurchase price (though the measurement price of stock appreciation rights must be at least equal to the fair market value of our common stock on the date of grant and the duration of such awards may not be in excess of ten years).

If our board of directors delegates authority to one or more of our officers to grant awards under the 2021 Plan, the officers will have the power to make awards to all of our employees, except officers and executive officers (as such terms are defined in the 2021 plan). Our board of directors will fix the terms of the awards to be granted by any such officer, the maximum number of shares subject to awards that such officer may make, and the time period in which such awards may be granted.

The 2021 Plan contains limits on awards that may be made under the 2021 Plan to our non-employee directors. In any calendar year, the maximum aggregate amount of cash and value (calculated based on grant date fair value for financial reporting purposes) of awards under the 2021 Plan granted in any calendar year to an individual non-employee director in his or her capacity as a non-employee director may not exceed \$1,000,000; provided, however, that fees paid by us on behalf of any non-employee director in connection with regulatory compliance and any amounts paid to a non-employee director as reimbursement of an expense will not count against the foregoing limit. However, our board of directors may make additional exceptions to this limit for individual non-employee directors in extraordinary circumstances, provided that the non-employee director receiving such additional compensation may not participate in the decision to award such compensation. This limitation may not apply to cash or awards granted to the non-employee director in his or her capacity as our advisor or consultant.

No stock option or stock appreciation right granted under the 2021 Plan may contain any provision entitling a participant to the automatic grant of additional stock options or stock appreciation rights in connection with any exercise of the respective original stock option or stock appreciation right. Furthermore, no stock option or stock appreciation right may provide for the payment or accrual of dividend equivalents. Award agreements for other stock-based awards may provide participants with the right to receive dividend equivalents. Dividend equivalents shall be credited to an account for the participant, may be settled in cash and/or shares of common stock as set forth in the applicable award agreement and shall be subject to the same restrictions on transfer and forfeitability as the other stock-based awards with respect to which paid. No interest will be paid on dividend equivalents.

#### *Effect of Certain Changes in Capitalization*

Upon the occurrence of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of our common stock other than an ordinary cash dividend, under the terms of the 2021 Plan, we are required to equitably adjust (or make substitute awards, if applicable), in the manner determined by our board of directors:

- the number and class of securities available under the 2021 Plan, and the number and class of securities available for issuance under the 2021 Plan that may be issued as incentive stock options under the 2021 Plan;

- the share counting rules of the 2021 Plan;
- the number and class of securities and exercise price per share of each outstanding option;
- the share and per-share provisions and the measurement price of each outstanding stock appreciation right;
- the number of shares subject to, and the repurchase price per share subject to, each outstanding award of restricted stock; and
- the share and per-share related provisions and the purchase price, if any, of each outstanding restricted stock unit award and other stock-based award.

*Effect of Certain Corporate Transactions*

Upon the occurrence of a merger or other reorganization event (as defined in the 2021 Plan), our board of directors may, on such terms as our board determines (except to the extent specifically provided otherwise in an applicable award agreement or other agreement between the participant and us), take any one or more of the following actions pursuant to the 2021 Plan as to all or any (or any portion of) outstanding awards, other than awards of restricted stock:

- provide that outstanding awards will be assumed, or substantially equivalent awards will be substituted, by the acquiring or succeeding corporation (or an affiliate of the acquiring or succeeding corporation);
- upon written notice to a participant, provide that all of the participant's unvested awards will be forfeited immediately prior to the consummation of the reorganization event, and/or that all of the participant's vested but unexercised awards will terminate immediately prior to the consummation of the reorganization event unless exercised by the participant (to the extent then exercisable) within a specified period following the date of the notice;
- provide that outstanding awards will become exercisable, realizable or deliverable, or restrictions applicable to an award will lapse, in whole or in part, prior to or upon such reorganization event;
- in the event of a reorganization event pursuant to which holders of shares of our common stock will receive a cash payment for each share surrendered in the reorganization event, make or provide for a cash payment to participants with respect to each award held by a participant equal to (1) the number of shares of our common stock subject to the vested portion of the award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such reorganization event) multiplied by (2) the excess, if any, of the cash payment for each share surrendered in the reorganization event over the exercise, measurement or purchase price of such award and any applicable tax withholdings, in exchange for the termination of such award;
- provide that, in connection with our liquidation or dissolution, awards will convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings); or
- any combination of the foregoing.

Our board of directors is not obligated under the 2021 Plan to treat all awards, all awards held by a participant, or all awards of the same type, identically.

In the case of certain restricted stock units, no assumption or substitution is permitted, and the restricted stock units will instead be settled in accordance with the terms of the applicable restricted stock unit agreement.

Upon the occurrence of a reorganization event other than our liquidation or dissolution, our repurchase and other rights with respect to outstanding awards of restricted stock will continue for the benefit of the succeeding company and will, unless our board of directors determines otherwise, apply to the cash, securities, or other property which our common stock was converted into or exchanged for pursuant to the reorganization event in the same manner and to the same extent as they applied to the common stock subject to the restricted stock award. However, our board of directors may provide for the termination or deemed satisfaction of such repurchase or other rights under the restricted stock award agreement or in any other

agreement between a participant and us, either initially or by amendment. Upon our liquidation or dissolution, except to the extent specifically provided to the contrary in the restricted stock award agreement or any other agreement between the participant and us, all restrictions and conditions on all restricted stock awards then outstanding will automatically be deemed terminated or satisfied.

At any time, our board of directors may provide that any award under the 2021 Plan will become immediately exercisable in whole or in part, free of some or all restrictions or conditions, or otherwise realizable in whole or in part as the case may be.

Except with respect to certain actions requiring stockholder approval under the Internal Revenue Code of 1986, as amended, or the Code, or Nasdaq rules, our board of directors may amend, modify or terminate any outstanding award under the 2021 Plan, including but not limited to, substituting for the award another award of the same or a different type, changing the date of exercise or realization, and converting an incentive stock option to a nonstatutory stock option, subject to certain participant consent requirements. However, unless our stockholders approve such action, the 2021 Plan provides that we may not (except as otherwise permitted in connection with a change in capitalization or reorganization event):

- amend any outstanding stock option or stock appreciation right granted under the 2021 Plan to provide an exercise or measurement price per share that is lower than the then-current exercise or measurement price per share of such outstanding award;
- cancel any outstanding stock option or stock appreciation right (whether or not granted under the 2021 Plan) and grant a new award under the 2021 Plan in substitution for the cancelled award (other than substitute awards permitted in connection with a merger or consolidation of an entity with us or our acquisition of property or stock of another entity) covering the same or a different number of shares of our common stock and having an exercise or measurement price per share lower than the then-current exercise or measurement price per share of the cancelled award;
- cancel in exchange for a cash payment any outstanding option or stock appreciation right with an exercise or measurement price per share above the then-current fair market value of our common stock (valued in the manner determined by (or in the manner approved by) our board of directors); or
- take any other action that constitutes a “repricing” within the meaning of Nasdaq rules or rules of any other exchange or marketplace on which our common stock is listed or traded.

No award may be granted under the 2021 Plan on or after the date that is ten years following the effectiveness of the registration statement related to this offering. Our board of directors may amend, suspend or terminate the 2021 Plan at any time, except that stockholder approval may be required to comply with applicable law or stock market requirements.

#### **2021 Employee Stock Purchase Plan**

On September 10, 2021, our board of directors adopted, and on October 12, 2021, our stockholders approved, the 2021 ESPP, which will become effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part. The 2021 ESPP will be administered by our board of directors or by a committee appointed by our board of directors. The 2021 ESPP initially provides participating employees with the opportunity to purchase up to an aggregate of 292,031 shares of our common stock. The number of shares of our common stock reserved for issuance under the 2021 ESPP will automatically increase on the first day of each fiscal year, commencing on January 1, 2022 and continuing until, and including, January 1, 2032, in an amount equal to the lowest of (i) 584,062 shares of our common stock, (ii) 1% of the number of shares of our common stock outstanding on such date and (iii) a number of shares of common stock determined by our board of directors.

All of our employees and employees of any designated subsidiary, as defined in the 2021 ESPP, are eligible to participate in the 2021 ESPP, provided that:

- such person is customarily employed by us or a designated subsidiary for more than 20 hours a week and for more than five months in a calendar year;
- such person has been employed by us or by a designated subsidiary for at least three months prior to enrolling in the 2021 ESPP; and

- such person was our employee or an employee of a designated subsidiary on the first day of the applicable offering period under the 2021 ESPP.

We retain the discretion to determine which eligible employees may participate in an offering under applicable regulations.

We expect to make one or more offerings to our eligible employees to purchase stock under the 2021 ESPP beginning at such time and on such dates as our board of directors may determine, or on the first business day thereafter. Each offering will consist of a six-month offering period during which payroll deductions will be made and held for the purchase of our common stock at the end of the offering period. Our board of directors or a committee designated by our board of directors may, at its discretion, choose a different period of not more than 12 months for offerings.

On each offering commencement date, each participant will be granted an option to purchase on the last day of the plan period at the applicable purchase price, up to the lesser of (i) 2,500 shares of our common stock and (ii) a number of shares of our common stock determined by multiplying \$2,083 by the number of full months in the offering period and dividing that product by the closing price of our common stock on the first day of the offering period. No employee may be granted an option under the 2021 ESPP that permits the employee's rights to purchase shares under the 2021 ESPP and any other employee stock purchase plan of ours or of any of our subsidiaries to accrue at a rate that exceeds \$25,000 of the fair market value of our common stock (determined as of the first day of each offering period) for each calendar year in which the option is outstanding. In addition, no employee may purchase shares of our common stock under the 2021 ESPP that would result in the employee owning 5% or more of the total combined voting power or value of our stock or the stock of any of our subsidiaries.

On the commencement date of each offering period, each eligible employee may authorize up to a maximum of 15% of his or her compensation to be deducted by us during the offering period. Each employee who continues to be a participant in the 2021 ESPP on the last business day of the offering period will be deemed to have exercised an option to purchase from us the number of whole shares of our common stock that his or her accumulated payroll deductions on such date will pay for, not in excess of the maximum numbers set forth above. Under the terms of the 2021 ESPP, the purchase price will be determined by our board of directors or the committee for each offering period and will be at least 85% of the applicable closing price of our common stock. If our board of directors or the committee does not make a determination of the purchase price, the purchase price will be 85% of the lesser of the closing price of our common stock on the first business day of the offering period or on the last business day of the offering period.

An employee may at any time prior to the close of business on the fifteenth business day prior to the end of the offering period (or such other number of days as is determined by us), and for any reason, permanently withdraw from participating in the offering and permanently withdraw the balance accumulated in the employee's account. If an employee elects to discontinue his or her payroll deductions during an offering period but does not elect to withdraw his or her funds, funds previously deducted will be applied to the purchase of common stock at the end of the offering period. If a participating employee's employment ends before the last business day of an offering period, no additional payroll deductions will be taken and the balance in the employee's account will be paid to the employee.

We will be required to make equitable adjustments to the extent determined by our board of directors or a committee thereof to the number and class of securities available under the 2021 ESPP, the share limitations under the 2021 ESPP, and the purchase price for an offering period under the 2021 ESPP to reflect stock splits, reverse stock splits, stock dividends, recapitalizations, combinations of shares, reclassifications of shares, spin-offs and other similar changes in capitalization or events or any dividends or distributions to holders of our common stock other than ordinary cash dividends.

In connection with a merger or other reorganization event, as defined in the 2021 ESPP, our board of directors or a committee of our board of directors may take any one or more of the following actions as to outstanding options to purchase shares of our common stock under the 2021 ESPP on such terms as our board of directors or committee thereof determines:

- provide that options will be assumed, or substantially equivalent options will be substituted, by the acquiring or succeeding corporation (or an affiliate of the acquiring or succeeding corporation);

- upon written notice to employees, provide that all outstanding options will be terminated immediately prior to the consummation of such reorganization event and that all such outstanding options will become exercisable to the extent of accumulated payroll deductions as of a date specified by board of directors or committee thereof in such notice, which date will not be less than ten days preceding the effective date of the reorganization event;
- upon written notice to employees, provide that all outstanding options will be cancelled as of a date prior to the effective date of the reorganization event and that all accumulated payroll deductions will be returned to participating employees on such date;
- in the event of a reorganization event under the terms of which holders of our common stock will receive upon consummation thereof a cash payment for each share surrendered in the reorganization event, change the last day of the offering period to be the date of the consummation of the reorganization event and make or provide for a cash payment to each employee equal to (1) the cash payment for each share surrendered in the reorganization event times the number of shares of our common stock that the employee's accumulated payroll deductions as of immediately prior to the reorganization event could purchase at the applicable purchase price, where the cash payment for each share surrendered in the reorganization event is treated as the fair market value of our common stock on the last day of the applicable offering period for purposes of determining the purchase price and where the number of shares that could be purchased is subject to the applicable limitations under the 2021 ESPP minus (2) the result of multiplying such number of shares by the purchase price; and/or
- provide that, in connection with our liquidation or dissolution, options will convert into the right to receive liquidation proceeds (net of the purchase price thereof).

Our board of directors may at any time, and from time to time, amend or suspend the 2021 ESPP or any portion of the 2021 ESPP. We will obtain stockholder approval for any amendment if such approval is required by Section 423 of the Code. Further, our board of directors may not make any amendment that would cause the 2021 ESPP to fail to comply with Section 423 of the Internal Revenue Code. The 2021 ESPP may be terminated at any time by our board of directors. Upon termination, we will refund all amounts in the accounts of participating employees.

#### **401(k) Plan**

We maintain a defined contribution employee retirement plan for our employees, including our named executive officers. The plan is intended to qualify as a tax-qualified 401(k) plan so that contributions to the 401(k) plan, and income earned on such contributions, are not taxable to participants until withdrawn or distributed from the 401(k) plan (except in the case of contributions under the 401(k) plan designated as Roth contributions). Under the 401(k) plan, each employee is fully vested in his or her deferred salary contributions. Employee contributions are held and invested by the plan's trustee as directed by participants. The 401(k) plan provides us with the discretion to match employee contributions, but to date we have not provided any employer matching contributions.

#### **Limitation of Liability and Indemnification**

Our certificate of incorporation, which will become effective upon the closing of this offering, limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the Delaware General Corporation Law, or the DGCL, and provides that no director will have personal liability to us or to our stockholders for monetary damages for breach of fiduciary duty as a director. However, these provisions do not eliminate or limit the liability of any of our directors:

- for any breach of the director's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- for voting for or assenting to unlawful payments of dividends, stock repurchases or other distributions; or
- for any transaction from which the director derived an improper personal benefit.



Any amendment to or repeal of these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to such amendment or repeal. If the DGCL is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the DGCL.

In addition, our certificate of incorporation, which will become effective upon the closing of this offering, provides that we must indemnify our directors and officers and we must advance expenses, including attorneys' fees, to our directors and officers in connection with legal proceedings, subject to very limited exceptions.

We maintain a general liability insurance policy that covers specified liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers. In addition, we intend to enter into new indemnification agreements with all of our directors and executive officers prior to the closing of this offering. These indemnification agreements may require us, among other things, to indemnify each such executive officer or director for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by him or her in any action or proceeding arising out of his or her service as one of our executive officers or directors.

Some of our non-employee directors may, through their relationships with their employers, be insured or indemnified against specified liabilities incurred in their capacities as members of our board of directors.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, may be permitted to directors, executive officers or persons controlling us, in the opinion of the Securities and Exchange Commission, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

#### Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or officer when entering into the plan, without further direction from the director or officer. It also is possible that the director or officer could amend or terminate the plan when not in possession of material, nonpublic information. In addition, our directors and executive officers may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material, nonpublic information.

#### Director Compensation

The table below shows all compensation to our non-employee directors during the year ended December 31, 2020.

Name	Fees earned or paid in cash (\$)	Stock awards (\$) <sup>(1)(2)</sup>	Option awards <sup>(1)(3)</sup> (\$)	All other compensation <sup>(3)</sup>	Total (\$)
Paul J. Clancy	18,333	—	249,960	—	268,293
Daniel Curran	—	—	—	—	—
Thomas Beck <sup>(4)</sup>	—	—	—	—	—
Peter Dudek <sup>(5)</sup>	—	—	—	—	—
David Grayzel	—	—	—	—	—
Nancy Hong <sup>(6)</sup>	—	—	—	—	—
Rachel Humphrey	40,000	85,096 <sup>(7)</sup>	51,478	150	176,724
Daniel S. Lynch	138,889	—	499,269	20,231	658,389
Jayson Punwani <sup>(8)</sup>	—	—	—	—	—
Michael Ross	—	—	—	—	—
Robert Weisskoff <sup>(9)</sup>	—	—	—	—	—

(1) The amounts reported represent the aggregate grant date fair value of incentive shares, restricted stock or stock options awarded in

2020, calculated in accordance with FASB ASC Topic 718. The assumptions used in calculating the grant date fair value are set forth in Note 14 to our consolidated financial statements appearing elsewhere in this prospectus. Shares of restricted stock issued in exchange for incentive units that were awarded prior to 2020 as part of the Reorganization have been excluded from the "Stock awards" column. These amounts reflect the accounting cost for these stock options and do not reflect the actual economic value that may be realized by the directors upon the vesting of the stock options, the exercise of the stock options or the sale of the common underlying such stock options.

- (2) As of December 31, 2020, the aggregate number of stock options held by non-employee directors was as follows:

<u>Director</u>	<u>Aggregate number of option awards</u>
Paul J. Clancy	67,397
Daniel Curran	—
Thomas Beck	—
Peter Dudek	—
David Grayzel	—
Nancy Hong	—
Rachel Humphrey	14,239
Daniel S. Lynch	134,797
Jayson Punwani	—
Michael Ross	—
Robert Weisskoff	—

As of December 31, 2020, the aggregate number of restricted common stock awards held by non-employee directors was as follows:

<u>Director</u>	<u>Aggregate number of restricted common stock awards</u>
Paul J. Clancy	—
Daniel Curran	—
Thomas Beck	—
Peter Dudek	—
David Grayzel	—
Nancy Hong	—
Rachel Humphrey	9,444
Daniel S. Lynch	—
Jayson Punwani	—
Michael Ross	—
Robert Weisskoff	—

- (3) The amount reported for Dr. Humphrey includes travel reimbursements. The amount reported for Mr. Lynch includes a legal fee reimbursement associated with his Service Agreement (as described below) (\$6,000) and phone, internet, and administrative assistant costs (\$14,200).
- (4) Mr. Beck resigned as a member of our board of directors in February 2020.
- (5) Mr. Dudek resigned as a member of our board of directors in February 2021.
- (6) Ms. Hong resigned as a member of our board of directors in February 2021.
- (7) 23,684 incentive units were awarded to Dr. Humphrey on March 12, 2020. In connection with the Reorganization, these incentive units were exchanged for 9,444 shares of restricted common stock. The shares began vesting as of December 13, 2019 and vest over three years, in equal annual installments through December 13, 2022, subject to continued service.
- (8) Mr. Punwani resigned as a member of our board of directors in November 2020.
- (9) Mr. Weisskoff resigned as a member of our board of directors in February 2021.

Prior to this offering, we paid cash fees and granted equity awards to certain of our non-employee directors for their service on our board of directors pursuant to a non-employee and non-affiliate director compensation policy. We have historically reimbursed our non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending board of director and committee meetings.

Prior to this offering, we compensated Mr. Lynch, the chairman of our board of directors, pursuant to a service agreement dated June 11, 2020, or the Service Agreement. Under the Service Agreement, Mr. Lynch

was entitled to an annual director service fee of \$250,000. The Service Agreement also provided for Mr. Lynch to receive the grant of an option to purchase 134,797 shares of our common stock, vesting in equal monthly installments over four years from June 11, 2020, which option was awarded in July 2020 at an exercise price of \$5.51 per share, which equaled the fair market value of our common stock on the date of grant. The Service Agreement also entitled Mr. Lynch to the grant of additional options following equity issuances by us such that he continues to own 1.5% of our common stock on a fully diluted basis, which obligation shall terminate immediately prior to the consummation of this offering. The vesting of the options granted under the Service Agreement are subject to acceleration upon the occurrence of certain events, including certain corporate transactions. On October 17, 2021, we entered into an amendment to the Service Agreement, which provides that, immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, Mr. Lynch will no longer be entitled to the director service fee under the Service Agreement and will instead be compensated according to the director compensation policy described below.

Dr. Russo also serves as our president and chief executive officer and does not receive any additional compensation for her service as a director. Dr. Russo is one of our named executive officers and, accordingly, the compensation that we pay to Dr. Russo is discussed above under “—Summary Compensation Table” and “—Narrative to Summary Table.”

In September 2021, our board of directors approved a director compensation policy that will become effective on the effective date of the registration statement of which this prospectus forms a part. Under this director compensation policy, we will pay our non-employee directors a cash retainer for service on the board of directors and for service on each committee on which the director is a member. The chairperson of the board and of each committee will receive higher retainers for such service. These fees are payable in arrears in four equal quarterly installments on the last day of each quarter, provided that the amount of such payment will be prorated for any portion of such quarter that the director is not serving on our board of directors and no fee will be payable in respect of any period prior to the closing of this offering. The fees paid to non-employee directors for service on the board of directors and for service on each committee of the board of directors on which the director is a member are as follows:

	Member annual fee	Chairperson annual incremental fee
Board of Directors	\$ 35,000	\$ 30,000
Audit Committee	\$ 15,000	\$ 7,500
Compensation Committee	\$ 10,000	\$ 5,000
Nominating and Corporate Governance Committee	\$ 8,000	\$ 4,000

We also will continue to reimburse our non-employee directors for reasonable travel and other expenses incurred in connection with attending meetings of our board of directors and any committee of our board of directors on which he or she serves.

In addition, under our director compensation policy to be effective on the effective date of the registration statement of which this prospectus forms a part, each non-employee director will receive, upon his or her initial election or appointment to our board of directors, an option to purchase 26,315 shares of our common stock under the 2021 Plan. Each of these options will vest as to 33.3333% of the shares of our common stock underlying such option at the end of each successive one-month period following the grant date until the third anniversary of the grant date, subject to the non-employee director’s continued service as a director. Further, on the date of the first board meeting held after each annual meeting of stockholders, each non-employee director that has served on our board of directors for at least six months will receive, under the 2021 Plan, an option to purchase 13,157 shares of our common stock under the 2021 Plan. Each of these options will vest with respect to all of the shares underlying such option on the first anniversary of the grant date or, if earlier, immediately prior to the first annual meeting of stockholders occurring after the grant date, subject to the non-employee director’s continued service as a director. All options issued to our non-employee directors under our director compensation policy will be issued at exercise prices equal to the fair market value of our common stock on the date of grant and will become exercisable in full upon specified change in control events.

Under the 2021 Plan, the maximum aggregate amount of cash and value of equity awards granted in any calendar year to any individual non-employee director in his or her capacity as a non-employee director shall

not exceed \$1,000,000, provided that fees paid by us on behalf of any non-employee director in connection with regulatory compliance and any amounts paid to a non-employee director as reimbursement of expenses will not count against the foregoing limit.

## TRANSACTIONS WITH RELATED PERSONS

Since January 1, 2018, we have engaged in the following transactions in which the amounts involved exceeded \$120,000 and any of our directors, executive officers or holders of more than 5% of our voting securities, or any member of the immediate family of, or person sharing the household with, the foregoing persons, had or will have a direct or indirect material interest. We believe that all of these transactions were on terms as favorable as could have been obtained from unrelated third parties.

### Series A-1 Preferred Unit Financing

On January 23, 2018, we issued and sold an aggregate of 2,608,695 Series A-1 preferred units at a price per share of \$1.15 in cash, for an aggregate purchase price of \$3.0 million. On February 28, 2018, we issued and sold an additional 3,913,043 Series A-1 preferred units at a price per share of \$1.15 in cash, for an aggregate purchase price of \$4.5 million. On December 5, 2018, we issued and sold an additional 4,347,826 Series A-1 preferred units at a price per share of \$1.15 in cash, for an aggregate purchase price of \$5.0 million. On May 10, 2019, we issued and sold an additional 8,695,652 Series A-1 preferred units at a price per share of \$1.15 in cash, for an aggregate purchase price of \$10.0 million. These Series A-1 preferred units, which were issued prior to the Reorganization, converted into Series A-1 convertible preferred stock in connection with the Reorganization. See “Prospectus Summary—Reorganization.” The following table sets forth the aggregate number of Series A-1 preferred units that we issued and sold to our directors, officers and 5% stockholders and their affiliates and the aggregate cash purchase price for such shares:

<u>Purchaser<sup>(1)</sup></u>	<u>Number of Series A-1 Preferred Units</u>	<u>Cash Purchase Price</u>
F-Prime Capital Partners Healthcare Fund IV LP	6,521,739	\$ 7,500,000
Atlas Venture Fund XI, L.P. <sup>(2)</sup>	13,043,477	14,999,999

(1) See “Principal Stockholders” for additional information about shares held by these entities.

(2) David Grayzel, a member of our board of directors, is a partner at Atlas Venture.

Each share of Series A-1 convertible preferred stock is convertible into 0.1053 shares of common stock.

### Series B Preferred Unit and Series B Convertible Preferred Stock Financing

On December 12, 2019, we issued and sold an aggregate of 23,913,036 Series B preferred units at a price per share of \$1.265 in cash, for an aggregate purchase price of \$30.2 million. On December 20, 2019, we issued and sold an additional 7,905,138 Series B preferred units at a price per share of \$1.265 in cash, for an aggregate purchase price of \$10.0 million. On February 25, 2020, we issued and sold an additional 7,905,138 Series B preferred units at a price per share of \$1.265 in cash, for an aggregate purchase price of \$10.0 million. These Series B preferred units, which were issued prior to the Reorganization, converted into Series B convertible preferred stock in connection with the Reorganization. See “Prospectus Summary—Reorganization.” On January 20, 2021, we issued and sold an additional 39,723,312 shares of Series B convertible preferred stock at a price per share of \$1.265 in cash, for an aggregate purchase price of \$50.2 million. The following table sets forth the aggregate number of Series B preferred units and shares of Series B convertible preferred stock that we issued and sold to our directors, officers and 5% stockholders and their affiliates and the aggregate cash purchase price for such shares:

<u>Purchaser<sup>(1)</sup></u>	<u>Number of Series B Preferred Units</u>	<u>Number of Shares of Series B Convertible Preferred Stock</u>	<u>Cash Purchase Price</u>
F-Prime Capital Partners Healthcare Fund IV LP	2,964,426	2,964,426	\$ 7,500,000
Atlas Venture Fund XI, L.P. <sup>(2)</sup>	2,964,426	2,964,426	7,500,000
Takeda Ventures, Inc. <sup>(3)</sup>	5,928,853	5,928,853	14,999,998
Rivervest Venture Fund IV, L.P.	3,952,569	3,952,569	10,000,000
SV7 Impact Medicine Fund LP <sup>(4)</sup>	4,743,083	4,743,083	12,000,000
MRL Ventures Fund, LLC	3,952,569	3,952,569	10,000,000

(1) See "Principal Stockholders" for additional information about shares held by these entities.

(2) David Grayzel, a member of our board of directors, is a partner at Atlas Venture.

(3) Daniel Curran, a member of our board of directors, is the head of the rare genetics and hematology therapeutic area unit at Takeda Ventures, Inc.

(4) Michael Ross, a member of our board of directors, is the managing partner at SV Health Investors LLC.

Each share of Series B convertible preferred stock is convertible into 0.1053 shares of common stock.

### Series C Convertible Preferred Stock Financing

On February 23, 2021, we issued an aggregate of 68,271,641 shares of our Series C convertible preferred stock at a price per share of \$1.3915 in cash, for an aggregate purchase price of \$95.0 million. The following table sets forth the aggregate number of shares of our Series C convertible preferred stock that we issued to our directors, officers and 5% stockholders and their affiliates and the aggregate cash purchase price for such shares:

<u>Purchaser<sup>(1)</sup></u>	<u>Number of Shares of Series C Convertible Preferred Stock</u>	<u>Cash Purchase Price</u>
Atlas Venture Opportunity Fund I, L.P. <sup>(2)</sup>	5,210,204	\$ 7,249,999
Takeda Ventures, Inc. <sup>(3)</sup>	2,155,946	2,999,999
Rivervest Venture Fund IV, L.P.	3,413,582	4,749,999
SV7 Impact Medicine Fund LP	2,874,595	3,999,999
Entities affiliated with Bain Capital Life Sciences Investors, LLC <sup>(4)</sup>	14,372,978	19,999,999
Entities affiliated with Deerfield Management Company, L.P.	14,372,978	19,999,999
MRL Ventures Fund, LLC	1,437,297	2,000,000

(1) See "Principal Stockholders" for additional information about shares held by these entities.

(2) David Grayzel, a member of our board of directors, is a partner at Atlas Venture.

(3) Daniel Curran, a member of our board of directors, is the head of the rare genetics and hematology therapeutic area unit at Takeda Ventures, Inc.

(4) Andrew Hack, a member of our board of directors, is a managing director of Bain Capital Life Sciences.

Each share of Series C convertible preferred stock is convertible into 0.1053 shares of common stock.

### Registration Rights

We are a party to a registration rights agreement with the holders of our convertible preferred stock, including our 5% stockholders and their affiliates and entities affiliated with some of our directors. This registration rights agreement provides these holders the right, subject to certain conditions, beginning six months following the closing of this offering, to demand that we file a registration statement or to request that their shares be covered by a registration statement that we are otherwise filing.

See “Description of Capital Stock—Registration Rights” for additional information regarding these registration rights.

#### **Indemnification Agreements**

Our certificate of incorporation, which will become effective upon the closing of this offering, provides that we will indemnify our directors and officers to the fullest extent permitted by Delaware law. In addition, we intend to enter into new indemnification agreements with all of our directors and executive officers prior to the closing of this offering. These indemnification agreements may require us, among other things, to indemnify each such executive officer or director for some expenses, including attorneys’ fees, judgments, fines and settlement amounts incurred by him or her in any action or proceeding arising out of his or her service as one of our executive officers or directors.

#### **Employment Agreements**

We have entered into letter agreements with each of our named executive officers. For more information regarding these agreements, see the section entitled “Executive Compensation—Employment Agreements.”

#### **Policies and Procedures for Related Person Transactions**

Our board of directors intends to adopt written policies and procedures for the review of any transaction, arrangement or relationship in which our company is a participant, the amount involved exceeds \$120,000, and one of our executive officers, directors, director nominees or 5% stockholders, or their immediate family members, each of whom we refer to as a “related person,” has a direct or indirect material interest.

If a related person proposes to enter into such a transaction, arrangement or relationship, which we refer to as a “related person transaction,” the related person must report the proposed related person transaction to our general counsel. The policy calls for the proposed related person transaction to be reviewed and, if deemed appropriate, approved by our audit committee. Whenever practicable, the reporting, review and approval will occur prior to entry into the transaction. If advance review and approval is not practicable, the audit committee will review, and, in its discretion, may ratify the related person transaction. The policy also permits the chairperson of the audit committee to review and, if deemed appropriate, approve proposed related person transactions that arise between committee meetings, subject to ratification by the committee at its next meeting. Any related person transactions that are ongoing in nature will be reviewed annually.

A related person transaction reviewed under the policy will be considered approved or ratified if it is authorized by the audit committee after full disclosure of the related person’s interest in the transaction. As appropriate for the circumstances, the audit committee will review and consider:

- the related person’s interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;
- the approximate dollar value of the amount of the related person’s interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than terms that could have been reached with an unrelated third party;
- the purpose, and the potential benefits to us, of the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

Our audit committee may approve or ratify the transaction only if it determines that, under all of the circumstances, the transaction is in, or is not inconsistent with, our best interests. Our audit committee may impose any conditions on the related person transaction that it deems appropriate.

In addition to the transactions that are excluded by the instructions to the SEC's related person transaction disclosure rule, our board of directors has determined that the following transactions do not create a material direct or indirect interest on behalf of related persons and, therefore, are not related person transactions for purposes of this policy:

- interests arising solely from the related person's position as an executive officer of another entity, whether or not the person is also a director of such entity, that is a participant in the transaction where the related person and all other related persons own in the aggregate less than a 10% equity interest in such entity, the related person and his or her immediate family members are not involved in the negotiation of the terms of the transaction and do not receive any special benefits as a result of the transaction and the amount involved in the transaction is less than the greater of \$200,000 or 5% of the annual gross revenues of the company receiving payment under the transaction; and
- a transaction that is specifically contemplated by provisions of our certificate of incorporation or bylaws.

The policy provides that transactions involving compensation of executive officers shall be reviewed and approved by our compensation committee in the manner specified in the compensation committee's charter.

We did not have a written policy regarding the review and approval of related person transactions prior to this offering. Nevertheless, with respect to such transactions, it has been the practice of our board of directors to consider the nature of and business reasons for such transactions, how the terms of such transactions compared to those which might be obtained from unaffiliated third parties and whether such transactions were otherwise fair to and in the best interests of, or not contrary to, our best interests.



## PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our common stock as of September 30, 2021 by:

- each of our directors;
- each of our named executive officers;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our common stock.

The column entitled “Percentage of Shares Beneficially Owned—Before Offering” is based on a total of 914,760 shares of our common stock outstanding as of September 30, 2021, including 135,811 shares of unvested restricted common stock subject to forfeiture, and assuming the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 18,398,248 shares of our common stock upon the closing of this offering. The column entitled “Percentage of Shares Beneficially Owned—After Offering” is based on 26,666,008 shares of our common stock to be outstanding after this offering, including the shares of our common stock that we are selling in this offering and the 135,811 shares of unvested restricted common stock subject to forfeiture, but not including any additional shares issuable upon exercise of outstanding options or any additional shares issuable upon the underwriters’ option to purchase additional shares.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock that an individual has a right to acquire within 60 days after September 30, 2021 are considered outstanding and beneficially owned by the person holding such right for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person, except with respect to the percentage ownership of all directors and executive officers. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to community property laws, where applicable. Unless otherwise indicated, the address of each beneficial owner is c/o Xilio Therapeutics, Inc., 828 Winter Street, Suite 300, Waltham, Massachusetts 02451.

<u>Name of Beneficial Owner</u>	<u>Shares Beneficially Owned</u>	<u>Percentage of Shares Beneficially Owned</u>	
		<u>Before Offering</u>	<u>After Offering</u>
<b>5% Stockholders:</b>			
Entities affiliated with Atlas Ventures <sup>(1)</sup>	2,571,844	13.3%	9.6%
F-Prime Capital Partners Healthcare Fund IV LP and affiliates <sup>(2)</sup>	1,907,671	9.9%	7.2%
Entities affiliated with Bain Capital Life Sciences Investors, LLC <sup>(3)</sup>	1,512,944	7.8%	5.7%
Entities affiliated with Deerfield Management Company, L.P. <sup>(4)</sup>	1,512,944	7.8%	5.7%
Takeda Ventures, Inc. <sup>(5)</sup>	1,475,121	7.6%	5.5%
SV7 Impact Medicine Fund LP <sup>(6)</sup>	1,301,132	6.7%	4.9%
Rivervest Venture Fund IV, L.P. <sup>(7)</sup>	1,191,444	6.2%	4.5%
MRL Ventures Fund, LLC <sup>(8)</sup>	983,414	5.1%	3.7%
<b>Directors and Named Executive Officers:</b>			
René Russo <sup>(9)</sup>	407,185	2.1%	1.5%
Joseph Farmer <sup>(10)</sup>	71,921	*	*
Martin Huber <sup>(11)</sup>	71,430	*	*
Sara Bonstein <sup>(12)</sup>	—	—	—
Paul J. Clancy <sup>(13)</sup>	19,377	*	*

<u>Name of Beneficial Owner</u>	<u>Shares Beneficially Owned</u>	<u>Percentage of Shares Beneficially Owned</u>	
		<u>Before Offering</u>	<u>After Offering</u>
Daniel Curran <sup>(5)</sup>	1,475,121	7.6%	5.5%
David Gardner <sup>(14)</sup>	—	—	—
David Grayzel <sup>(1)</sup>	2,571,844	13.3%	9.6%
Andrew Hack <sup>(15)</sup>	—	—	—
Rachel Humphrey <sup>(16)</sup>	30,697	*	*
Daniel S. Lynch <sup>(17)</sup>	118,784	*	*
Michael Ross <sup>(6)</sup>	1,301,132	6.7%	4.9%
Christina Rossi <sup>(18)</sup>	—	—	—
All current executive officers and directors as a group (13 persons) <sup>(19)</sup>	5,995,570	30.4%	22.4%

\* Less than one percent.

- (1) Consists of: (i) 26,315 shares of common stock held by Atlas Venture Fund XI, L.P., or Atlas XI, (ii) 1,997,087 shares of common stock underlying shares of convertible preferred stock held by Atlas XI and (iii) 548,442 shares of common stock underlying shares of convertible preferred stock held by Atlas Venture Opportunity Fund I, L.P., or AVO I. Atlas Venture Associates XI, L.P., or AVA XI LP, is the general partner of Atlas XI and Atlas Venture Associates XI, LLC, or AVA XI LLC and together with Atlas XI and AVA XI LP, the Fund XI Reporting Persons, is the general partner of AVA XI LP. Each of AVA XI LP and AVA XI LLC has voting and dispositive power over the shares held by Atlas XI. Bruce Booth, Jean-François Formela, David Grayzel, Jason Rhodes and Kevin Bitterman are the members of AVA XI LLC and collectively make investment decisions on behalf of AVA XI LLC. As such, each of the Fund XI Reporting Persons, Mr. Booth, Mr. Formela, Mr. Grayzel, Mr. Rhodes and Mr. Bitterman share voting and dispositive power with respect to the shares held by Atlas XI. Mr. Booth, Mr. Formela, Mr. Grayzel, Mr. Rhodes and Mr. Bitterman disclaim beneficial ownership of such shares except to the extent of any pecuniary interest therein. Atlas Venture Associates Opportunity I, L.P., or AVAO LP, is the general partner of AVO I and Atlas Venture Associates Opportunity I, LLC, or AVAO LLC and together with AVO I and AVAO LP, the Opportunity Fund Reporting Persons, is the general partner of AVAO LP. Each of AVAO LP and AVAO LLC has voting and dispositive power over the shares held by AVO I. As such, each of the Opportunity Fund Reporting Persons share voting and dispositive power with respect to the shares held by AVO I. David Grayzel, a member of our board of directors, is a member of AVA XI LLC and AVAO LLC and makes investment decisions on behalf of Atlas XI and AVO I. Mr. Grayzel disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein. The mailing address of Atlas XI and AVO I is 300 Technology Square, 8th Floor, Cambridge, MA 02139.
- (2) Consists of: (i) 26,315 shares of common stock held by F-Prime Capital Partners Healthcare Fund IV LP, or F-Prime IV, (ii) 789,473 shares of common stock underlying shares of Series A preferred stock held by F-Prime IV, (iii) 686,499 shares of common stock underlying shares of Series B preferred stock held by F-Prime IV, (iv) 28,703 shares of common stock underlying shares of Series B preferred stock held by Impresa Fund III Limited Partnership, and (v) 4,465 shares of common stock underlying shares of Series B preferred stock held by F-Prime Capital Partners Healthcare Advisors Fund IV LP, or F-Prime Advisors IV. F-Prime Advisors IV is the general partner of F-Prime IV. F-Prime Advisors IV is solely managed by Impresa Management LLC, the managing member of its general partner and its investment manager. Impresa Fund III Limited Partnership is solely managed by Impresa Management LLC, its general partner and its investment manager. Impresa Management LLC is owned, directly or indirectly, by various shareholders and employees of FMR LLC. Impresa Management LLC is managed on a day-to-day basis by its President, B. Lane MacDonald, and as such, Mr. MacDonald may be deemed to have voting and dispositive power with respect to all shares held by F-Prime IV, F-Prime Advisors Fund IV and Impresa Fund III Limited Partnership. Mr. MacDonald and each of the entities listed above expressly disclaim beneficial ownership of the shares listed above except to the extent of any pecuniary interest therein. The address of these entities is 245 Summer Street, Boston, Massachusetts 02210.
- (3) Consists of (i) 1,348,682 shares of common stock underlying shares of convertible preferred stock held by Bain Capital Life Sciences Fund II, L.P. ("BCLS II") and (ii) 164,262 shares of common stock underlying shares of convertible preferred stock held by BCIP Life Sciences Associates, LP ("BCIPLS") and, together with BCLS II, the "Bain Capital Life Sciences Entities"). Bain Capital Life Sciences Investors, LLC, whose managers are Jeffrey Schwartz and Adam Koppel, is the manager of the general partner of BCLS II and governs the investment strategy and decision-making process with respect to investments held by BCIPLS. As a result, each of Bain Capital Life Sciences Investors, LLC, Mr. Schwartz and Dr. Koppel may be deemed to share voting and dispositive power over the shares held by the Bain Capital Life Sciences Entities. The address of the Bain Capital Life Sciences Entities is c/o Bain Capital Life Sciences, LP, 200 Clarendon Street, Boston, MA 02116.
- (4) Consists of (i) 756,472 shares of common stock underlying shares of convertible preferred stock held by Deerfield Private Design Fund V, L.P., or Deerfield Private Design and (ii) 756,472 shares of common stock underlying shares of convertible preferred stock held by Deerfield Partners, L.P., or Deerfield Partners, and together with Deerfield Private Design, Deerfield, Deerfield Mgmt V, L.P. is the general partner of Deerfield Private Design and Deerfield Mgmt, L.P. is the general partner of Deerfield Partners. Deerfield Management Company, L.P. is the investment manager of each of Deerfield Private Design and Deerfield Partners. Mr. James E. Flynn is the sole member of the general partner of each of Deerfield Mgmt V, L.P., Deerfield Mgmt, L.P. and Deerfield Management Company, L.P. Deerfield Mgmt V, L.P., Deerfield Management Company, L.P. and Mr. James E. Flynn may be deemed to beneficially own the securities held by Deerfield Private Design. Deerfield Mgmt, L.P., Deerfield Management Company, L.P. and Mr. James E. Flynn may be deemed to beneficially own the securities held by Deerfield Partners. The address for Deerfield is c/o Deerfield Management Company, L.P., 780 Third Avenue, 37th Floor, New York, New York 10017.

- (5) Consists of shares of common stock underlying shares of convertible preferred stock. Takeda Ventures, Inc. is a wholly owned indirect subsidiary of Takeda Pharmaceutical Company Limited. Takeda Ventures, Inc. is owned directly by Takeda Pharmaceuticals U.S.A., Inc., which is owned directly by both Takeda Pharmaceutical Company Limited (72.70%) and Takeda Pharmaceuticals International AG (27.30%). Takeda Pharmaceuticals International AG is a wholly owned direct subsidiary of Takeda Pharmaceutical Company Limited. Daniel Curran, a member of our board of directors, is the Head of the Rare Genetics and Hematology Therapeutic Area Unit of Takeda, and as such may be deemed to beneficially own such shares. Mr. Curran disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein.
- (6) Consists of shares of common stock underlying shares of convertible preferred stock held by SV7 Impact Medicine Fund LP, via its general partner SV7 (IMF) GP LLP. Catherine Bingham, Michael Ross, who is a member of our board of directors, and Houman Ashrafian are members of the investment committee of SV7 (IMF) GP LLC, which has voting and investment power with respect to these shares, and may be deemed to beneficially own such shares. SV7 (IMF) GP LLP and Ms. Bingham, Mr. Ross and Mr. Ashrafian each disclaim beneficial ownership of the shares held herein except to the extent of their pecuniary interest therein. The address of SV7 Impact Medicine Fund LP is 71 Kingsway, London, WC2B 6ST, United Kingdom.
- (7) Consists of shares of common stock underlying shares of convertible preferred stock held by RiverVest Venture Fund IV, L.P., or RiverVest. RiverVest Venture Partners IV, L.P. is the general partner of RiverVest. RiverVest Venture Partners IV, LLC, is the sole general partner of RiverVest Venture Partners IV, L.P. The individual managers of RiverVest Ventures Partners IV, LLC are Jay Schmelter, John P. McKearn, Ph.D. and Niall O'Donnell. RiverVest Partners IV, RiverVest Venture Partners IV, LLC and each of the individual managers share voting and dispositive power with regard to the securities directly held by RiverVest Venture Fund IV, L.P. The address of RiverVest is 101 South Hanley Road, Suite 1850, St. Louis, Missouri 63105.
- (8) Consists of shares of common stock underlying shares of convertible preferred stock held by MRL Ventures Fund, LLC, or MRL Ventures Fund. All shares are held directly by MRL Ventures Fund, which is a subsidiary of Merck Sharp & Dohme Corp. Peter Dudek is the president of MRL Ventures Fund. The address of MRL Ventures Fund is 320 Bent Street, Cambridge, Massachusetts 02141.
- (9) Consists of (i) 200,633 shares of restricted common stock, of which 94,662 will remain subject to vesting 60 days after September 30, 2021, and (ii) 206,552 shares of common stock issuable upon the exercise of options exercisable within 60 days after September 30, 2021.
- (10) Consists of (i) 34,549 shares of restricted common stock, of which none will remain subject to vesting 60 days after September 30, 2021, and (ii) 37,371 shares of common stock issuable upon the exercise of options exercisable within 60 days after September 30, 2021. Mr. Farmer resigned as our chief operating officer in March 2021.
- (11) Consists of 71,429 shares of common stock issuable upon the exercise of options exercisable within 60 days after September 30, 2021.
- (12) Ms. Bonstein became a member of our board of directors in August 2021 and does not hold any options exercisable within 60 days after September 30, 2021.
- (13) Consists of 19,378 shares of common stock issuable upon the exercise of options exercisable within 60 days after September 30, 2021.
- (14) Mr. Gardner became a member of our board of directors in February 2021 and does not hold any options exercisable within 60 days after September 30, 2021.
- (15) Does not include shares of common stock underlying shares of convertible preferred stock held by the Bain Capital Life Sciences Entities. Dr. Hack is a managing director of Bain Capital Life Sciences Investors, LLC. As a result, by virtue of the relationships described in footnote 3 above, Dr. Hack may be deemed to share beneficial ownership of such securities held by the Bain Capital Life Sciences Entities. The address of Dr. Hack is c/o Bain Capital Life Sciences, LP, 200 Clarendon Street, Boston, Massachusetts 02116.
- (16) Consists of (i) 9,444 shares of restricted common stock, of which 6,296 will remain subject to vesting 60 days after September 30, 2021, and (ii) 21,253 shares of common stock issuable upon the exercise of options exercisable within 60 days after September 30, 2021.
- (17) Consists of 118,784 shares of common stock issuable upon the exercise of options exercisable within 60 days after September 30, 2021.
- (18) Ms. Rossi became a member of our board of directors in April 2021 and does not hold any options exercisable within 60 days after September 30, 2021.
- (19) Consists of (i) 5,321,782 shares of common stock underlying shares of convertible preferred stock, (ii) 236,392 shares of common stock, of which 100,958 will remain subject to vesting 60 days after September 30, 2021, and (iii) 437,396 shares of common stock issuable upon the exercise of options exercisable within 60 days after September 30, 2021.

## DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our certificate of incorporation and bylaws are summaries and are qualified by reference to the certificate of incorporation and bylaws that will become effective upon the closing of this offering. We will file copies of these documents with the SEC as exhibits to our registration statement of which this prospectus is a part. The description of the capital stock reflects changes to our capital structure that will occur upon the closing of this offering.

Upon the closing of this offering, our authorized capital stock will consist of 200,000,000 shares of our common stock, par value \$0.0001 per share, and 5,000,000 shares of our convertible preferred stock, par value \$0.0001 per share, all of which convertible preferred stock will be undesignated.

As of September 30, 2021, we had issued and outstanding:

- 914,760 shares of our common stock. These shares are held by 54 holders of record;
- 7,500,000 shares of our Series A convertible preferred stock, convertible into 789,473 shares of our common stock. These shares are held by one holder of record;
- 19,565,216 shares of our Series A-1 convertible preferred stock, convertible into 2,059,496 shares of our common stock. These shares are held by two holders of record;
- 79,446,624 shares of our Series B convertible preferred stock, convertible into 8,362,793 shares of our common stock. These shares are held by 19 holders of record; and
- 68,271,641 shares of our Series C convertible preferred stock, convertible into 7,186,486 shares of our common stock. These shares are held by 17 holders of record.

Upon the closing of this offering, all of the outstanding shares of our convertible preferred stock will automatically convert into an aggregate of 18,398,248 shares of our common stock.

### **Common Stock**

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Each election of directors by our stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

In the event of our liquidation or dissolution, the holders of our common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any of our outstanding preferred stock. Holders of our common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our convertible preferred stock that we may designate and issue in the future.

### **Preferred Stock**

Immediately prior to the closing of this offering, all outstanding shares of convertible preferred stock will convert into shares of our common stock. Immediately upon the closing of this offering, our certificate of incorporation will be amended and restated to delete all references to such shares of convertible preferred stock. Under the terms of our certificate of incorporation that will become effective upon the closing of this offering, our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or

could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. Upon the closing of this offering, there will be no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

#### **Options and Unvested Restricted Common Stock**

As of September 30, 2021, options to purchase an aggregate of 3,391,136 shares of our common stock were outstanding under our 2020 Plan, at a weighted average exercise price of \$7.03 per share, and 135,811 shares of unvested restricted common stock were outstanding. See “Executive Compensation—Stock Option and Other Compensation Plans” for additional information regarding the terms of our 2020 Plan.

#### **Delaware Anti-Takeover Law and Certain Charter and Bylaw Provisions**

##### ***Delaware Law***

We are subject to Section 203 of the DGCL. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a “business combination” with any “interested stockholder” for three years following the date that the person became an interested stockholder, unless either the interested stockholder attained such status with the approval of our board of directors, the business combination is approved by our board of directors and stockholders in a prescribed manner or the interested stockholder acquired at least 85% of our outstanding voting stock in the transaction in which it became an interested stockholder. A “business combination” includes, among other things, a merger or consolidation involving us and the “interested stockholder” and the sale of more than 10% of our assets. In general, an “interested stockholder” is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person. The restrictions contained in Section 203 are not applicable to any of our existing stockholders that will own 15% or more of our outstanding voting stock upon the closing of this offering.

##### ***Staggered Board; Removal of Directors***

Our certificate of incorporation and our bylaws to be effective upon the closing of this offering divide our board of directors into three classes with staggered three-year terms. In addition, our certificate of incorporation and our bylaws to be effective upon the closing of this offering provide that directors may be removed only for cause and only by the affirmative vote of the holders of at least 75% of our shares of capital stock present in person or by proxy and entitled to vote. Under our certificate of incorporation and our bylaws to be effective upon the closing of this offering, any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. Furthermore, our certificate of incorporation to be effective upon the closing of this offering provides that the authorized number of directors may be changed only by the resolution of our board of directors. The classification of our board of directors and the limitations on the ability of our stockholders to remove directors, change the authorized number of directors and fill vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

##### ***Stockholder Action; Special Meeting of Stockholders; Advance Notice Requirements for Stockholder Proposals and Director Nominations***

Our certificate of incorporation and our bylaws to be effective upon the closing of this offering provide that any action required or permitted to be taken by our stockholders at an annual meeting or special meeting of stockholders may only be taken if it is properly brought before such meeting and may not be taken by written action in lieu of a meeting. Our certificate of incorporation and our bylaws to be effective upon the closing of this offering also provide that, except as otherwise required by law, special meetings of the stockholders can only be called by our board of directors. In addition, our bylaws to be effective upon the closing of this offering establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to our board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors, or by a stockholder of

record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities. These provisions also could discourage a third party from making a tender offer for our common stock because even if the third party acquired a majority of our outstanding voting stock, it would be able to take action as a stockholder, such as electing new directors or approving a merger, only at a duly called stockholders meeting and not by written consent.

#### ***Super-Majority Voting***

The DGCL provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our bylaws to be effective upon the closing of this offering may be amended or repealed by a majority vote of our board of directors or the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in any election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our certificate of incorporation described above.

#### ***Exclusive Forum Selection***

Our certificate of incorporation to become effective upon the closing of this offering provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the federal district court for the District of Delaware) shall be the sole and exclusive forum for the following types of proceedings: (1) any derivative action or proceeding brought on behalf of our company, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or stockholders to our company or our stockholders, (3) any action asserting a claim arising pursuant to any provision of the General Corporation Law of the State of Delaware or as to which the General Corporation Law of the State of Delaware confers jurisdiction on the Court of Chancery of the State of Delaware, or (4) any action asserting a claim arising pursuant to any provision of our certificate of incorporation or amended and restated bylaws (in each case, as they may be amended from time to time) or governed by the internal affairs doctrine. These choice of forum provisions will not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our certificate of incorporation that will become effective upon the closing of this offering provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any claims arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

#### ***Registration Rights***

We have entered into an amended and restated registration rights agreement dated as of February 23, 2021, or the registration rights agreement, with holders of our convertible preferred stock. This registration rights agreement provides these stockholders the right, following the closing of this offering, to require us to register their shares under the Securities Act under specified circumstances as described below under "—Demand and Form S-3 Registration Rights" and "—Incidental Registration Rights." We refer to the shares with these registration rights as registrable securities. After registration pursuant to these rights, the registrable securities

will become freely tradable without restriction under the Securities Act. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act.

#### ***Demand and Form S-3 Registration Rights***

Beginning 180 days after the effective date of the registration statement of which this prospectus is a part, subject to specified limitations set forth in the registration rights agreement, at any time, the holders of a majority of the then outstanding registrable securities may demand that we register registrable securities then outstanding under the Securities Act for purposes of a public offering having an aggregate offering price to the public of not less than \$10.0 million. We are not obligated to file a registration statement pursuant to this provision on more than two occasions.

In addition, subject to specified limitations set forth in the registration rights agreement, at any time after we become eligible to file a registration statement on Form S-3, holders of at least 25% of the registrable securities then outstanding may request that we register their registrable securities on Form S-3 for purposes of a public offering for which the reasonably anticipated aggregate offering price to the public would exceed \$3.0 million. We are not obligated to file a registration statement pursuant to this provision on more than two occasions in any 12-month period.

#### ***Incidental Registration Rights***

If, at any time after the closing of this offering, we propose to register for our own account any of our securities under the Securities Act, the holders of registrable securities will be entitled to notice of the registration and, subject to specified exceptions, have the right to require us to register all or a portion of the registrable securities then held by them in that registration.

In the event that any registration in which the holders of registrable securities participate pursuant to our registration rights agreement is an underwritten public offering, we have agreed to enter into an underwriting agreement in usual and customary form and use our reasonable best efforts to facilitate such offering.

#### ***Expenses***

Pursuant to the registration rights agreement, we are required to pay all registration expenses, including all registration and filing fees, exchange listing fees, printing expenses, fees and expenses not to exceed \$50,000 of one counsel selected by the selling stockholders to represent the selling stockholders, but excluding underwriting discounts, selling commissions, stock transfer taxes applicable to the sale of registrable securities and the fees and expenses of the selling stockholders' own counsel (other than the counsel selected to represent all selling stockholders). If a registration is withdrawn at the request of the stockholders initiating the registration, then the stockholders will bear the expenses of the registration.

The registration rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us or any violation or alleged violation whether by action or inaction by us under the Securities Act, the Exchange Act, any state securities or Blue Sky law or any rule or regulation promulgated under the Securities Act, the Exchange Act or any state securities or Blue Sky law in connection with such registration statement or the qualification or compliance of the offering, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them.

#### ***Transfer Agent and Registrar***

The transfer agent and registrar for our common stock will be Computershare Trust Company, N.A.

#### ***Nasdaq Global Market***

We have applied to have our common stock listed on the Nasdaq Global Market under the symbol "XLO."

**SHARES ELIGIBLE FOR FUTURE SALE**

Prior to this offering, there has been no public market for our common stock, and a liquid trading market for our common stock may not develop or be sustained after this offering. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options, or the anticipation of these sales, could adversely affect market prices prevailing from time to time and could impair our ability to raise capital through sales of equity securities.

Upon the closing of this offering, we will have outstanding 26,666,008 shares of our common stock, based on the 914,760 shares of our common stock that were outstanding on September 30, 2021, including 135,811 shares of unvested restricted common stock subject to forfeiture, and after giving effect to the issuance of 7,353,000 shares of our common stock in this offering, assuming no exercise by the underwriters of their option to purchase additional shares of our common stock and the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 18,398,248 shares of our common stock upon the closing of this offering. Of these shares, all shares sold in this offering will be freely tradable without restriction or further registration under the Securities Act unless purchased by our “affiliates,” as that term is defined in Rule 144 under the Securities Act.

The remaining 19,313,008 shares of our common stock will be “restricted securities” under Rule 144, and we expect that substantially all of these restricted securities will be subject to the 180-day lock-up period under the lock-up agreements as described below. These restricted securities may be sold in the public market upon release or waiver of any applicable lock-up agreements, which waiver may be effected with the consent of the Morgan Stanley & Co. LLC and Cowen and Company, LLC in their sole discretion at any time, and only if registered or pursuant to an exemption from registration, such as Rule 144 or Rule 701 under the Securities Act.

**Rule 144**

In general, under Rule 144 of the Securities Act, beginning 90 days after the date of this prospectus, any person who is not our affiliate and has held their shares for at least six months, including the holding period of any prior owner other than one of our affiliates, may sell those shares without restriction, subject to the availability of current public information about us. In addition, under Rule 144, any person who is not our affiliate and has not been our affiliate at any time during the preceding three months and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the closing of this offering without regard to whether current public information about us is available.

Beginning 90 days after the date of this prospectus, a person who is our affiliate or who was our affiliate at any time during the preceding three months and who has beneficially owned restricted securities for at least six months, including the holding period of any prior owner other than one of our affiliates, is entitled to sell a number of shares within any three-month period that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately 266,696 shares immediately after this offering; and
- the average weekly trading volume in our common stock on the Nasdaq Global Market during the four calendar weeks preceding the date of filing of a Notice of Proposed Sale of Securities Pursuant to Rule 144 with respect to the sale.

Sales under Rule 144 by our affiliates are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us.

Upon waiver or expiration of the 180-day lock-up period described below, approximately 17,555,943 shares of our common stock will be eligible for sale under Rule 144. We cannot estimate the number of shares of our common stock that our existing stockholders will elect to sell under Rule 144.



**Rule 701**

In general, under Rule 701 of the Securities Act, any of our employees, consultants or advisors, other than our affiliates, who purchased shares from us in connection with a qualified compensatory stock plan or other written agreement is eligible to resell these shares 90 days after the date of this prospectus in reliance on Rule 144, but without compliance with the various restrictions, including the availability of public information about us, holding period and volume limitations, contained in Rule 144. Substantially all Rule 701 shares are subject to the 180-day lock-up period described below and will be eligible for sale in accordance with Rule 701 upon expiration of the restrictions set forth in those agreements.

**Lock-up Agreements**

We and each of our executive officers and directors and the holders of substantially all of our outstanding securities have agreed that, without the prior written consent of Morgan Stanley & Co. LLC and Cowen and Company, LLC, on behalf of the underwriters, we and they will not, subject to limited exceptions, during the period ending 180 days after the date of this prospectus:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock beneficially owned (as such term is used in Rule 13d-3 of the Exchange Act) or any other securities so owned convertible into or exercisable or exchangeable for common stock, or make any public announcement of an intention to do any of the foregoing; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock.

These agreements are subject to certain exceptions, as described in the section of this prospectus entitled “Underwriters.”

**Registration Rights**

Beginning 180 days after this offering, the holders of an aggregate of 18,450,878 shares of our common stock will have rights, subject to certain conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act. See “Description of Capital Stock—Registration Rights” for additional information regarding these registration rights.

**Stock Options and Form S-8 Registration Statement**

Following this offering, we intend to file one or more registration statements on Form S-8 under the Securities Act to register all of the shares of our common stock subject to outstanding awards and reserved for future issuance under the 2020 Plan, the 2021 Plan and the 2021 ESPP. See “Executive Compensation—Stock Option and Other Compensation Plans” for additional information regarding these plans. Accordingly, shares of our common stock registered under the registration statements will be available for sale in the open market, subject to Rule 144 volume limitations applicable to affiliates, and subject to any vesting restrictions and lock-up agreements applicable to these shares.

**MATERIAL U.S. FEDERAL TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK**

The following is a discussion of material U.S. federal income and estate tax considerations relating to ownership and disposition of our common stock by a non-U.S. holder. For purposes of this discussion, the term “non-U.S. holder” means a beneficial owner (other than a partnership or other entity or arrangement treated as a pass-through entity) of our common stock that is not, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, if a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have authority to control all substantial decisions of the trust or if the trust has a valid election in effect to be treated as a U.S. person under applicable U.S. Treasury Regulations.

This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended, or the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings, and judicial decisions, as in effect as of the date of this prospectus and all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus. In addition, there can be no assurance that the Internal Revenue Service, or IRS, will not challenge one or more of the tax consequences described in this prospectus.

This discussion addresses only non-U.S. holders that hold shares of our common stock as a “capital asset” within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all aspects of U.S. federal income and estate taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder’s individual circumstances nor does it address the alternative minimum tax, gift taxes, the Medicare tax on net investment income or any aspects of U.S. state, local, or non-U.S. taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt organizations;
- financial institutions;
- brokers or dealers in securities;
- pension plans;
- controlled foreign corporations;
- passive foreign investment companies;
- owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security, or other integrated investment;
- certain U.S. expatriates; and
- persons who acquire our common stock through the exercise of an option or otherwise as compensation.

In addition, this discussion does not address the tax treatment of partnerships or persons who hold their common stock through partnerships or other entities or arrangements that are treated as pass-through entities for U.S. federal income tax purposes. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her, or its own tax advisor regarding the tax consequences of the purchase, ownership, and disposition of our common stock through a partnership or other pass-through entity, as applicable.

**Prospective investors should consult their own tax advisors regarding the U.S. federal, state, local, and non-U.S. income and other tax considerations of acquiring, holding, and disposing of our common stock.**

**Dividends**

If we pay distributions on our common stock, those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below under the heading "—Gain on Disposition of Common Stock."

Dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence. A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or successor form) and satisfy applicable certification and other requirements. This certification must be provided to us or our paying agent prior to the payment of dividends and must be updated periodically. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS. Non-U.S. holders are urged to consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. However, such U.S. effectively connected income is taxed on a net income basis at the same U.S. federal income tax rates applicable to United States persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

**Gain on Disposition of Common Stock**

A non-U.S. holder generally will not be subject to U.S. federal income tax on gain recognized on a disposition of our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States; in these cases, the non-U.S. holder will be taxed on a net income basis at the same U.S. federal income tax rates applicable to United States persons (as defined in the Code), and if the non-U.S. holder is a foreign corporation, an additional branch profits tax at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty, may also apply;
- the non-U.S. holder is a nonresident alien present in the United States for 183 days or more in the taxable year of the disposition and certain other requirements are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the net gain derived from the disposition, which may be offset by U.S.-source capital losses of the non-U.S. holder, if any, provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or
- we are, or have been at any time during the five-year period preceding such disposition (or the non-U.S. holder's holding period, if shorter), a "U.S. real property holding corporation," unless our common stock is regularly traded on an established securities market and the non-U.S. holder held no more than 5% of our outstanding common stock, directly or indirectly, during the shorter of the five year period ending on the date of the disposition or the period that the non-U.S. holder held our common stock. If we are determined to be a U.S. real property holding corporation and the foregoing exception does not

apply, then the non-U.S. holder generally will be taxed on its net gain derived from the disposition at the U.S. federal income tax rates applicable to United States persons (as defined in the Code). Generally, a corporation is a “U.S. real property holding corporation” if the fair market value of its “U.S. real property interests” equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we believe that we are not currently, and we do not anticipate becoming, a “U.S. real property holding corporation” for U.S. federal income tax purposes. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rule described above.

#### **Information Reporting and Backup Withholding**

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a U.S. person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Generally, a non-U.S. holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable Form W-8) or otherwise meets documentary evidence requirements for establishing that it is a non-U.S. holder, or otherwise establishes an exemption. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above under the heading “—Dividends,” will generally be exempt from U.S. backup withholding.

Information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Rather, any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder’s U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

#### **FATCA**

Provisions of the Code commonly referred to as the Foreign Account Tax Compliance Act, or FATCA, generally impose a 30% withholding tax on dividends on, and gross proceeds from the sale or other disposition of, our common stock if paid to a foreign entity unless (i) if the foreign entity is a “foreign financial institution,” the foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a “foreign financial institution,” the foreign entity identifies certain of its U.S. investors, or (iii) the foreign entity is otherwise excepted under FATCA.

Withholding under FATCA generally applies to payments of dividends on our common stock. While withholding under FATCA would also apply to payments of gross proceeds from a sale or other disposition of our common stock, under proposed U.S. Treasury Regulations, withholding on payments of gross proceeds is not required. Although such regulations are not final, applicable withholding agents may rely on the proposed regulations until final regulations are issued.

If withholding under FATCA is required on any payment related to our common stock, investors not otherwise subject to withholding (or that otherwise would be entitled to a reduced rate of withholding) on such payment may be required to seek a refund or credit from the IRS. An intergovernmental agreement

between the United States and an applicable foreign country may modify the requirements described in this section. Non-U.S. holders should consult their own tax advisors regarding the possible implications of FATCA on their investment in our common stock and the entities through which they hold our common stock.

**Federal Estate Tax**

Common stock owned or treated as owned by an individual who is a non-U.S. holder (as specially defined for U.S. federal estate tax purposes) at the time of death will be included in the individual's gross estate for U.S. federal estate tax purposes and, therefore, may be subject to U.S. federal estate tax, unless an applicable estate tax or other treaty provides otherwise.

**The preceding discussion of material U.S. federal tax considerations is for prospective investors' information only. It is not tax advice. Prospective investors should consult their own tax advisors regarding the particular U.S. federal, state, local, and non-U.S. tax consequences of purchasing, holding, and disposing of our common stock, including the consequences of any proposed changes in applicable laws.**

## UNDERWRITERS

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. LLC, Cowen and Company, LLC and Guggenheim Securities, LLC are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them the number of shares indicated below:

<u>Name</u>	<u>Number of Shares</u>
Morgan Stanley & Co. LLC	
Cowen and Company, LLC	
Guggenheim Securities, LLC	
Raymond James & Associates, Inc.	
<b>Total:</b>	<b>7,353,000</b>

The underwriters and the representatives are collectively referred to as the “underwriters” and the “representatives,” respectively. The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters’ over-allotment option described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representative.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to 1,102,950 additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase about the same percentage of the additional shares of common stock as the number listed next to the underwriter’s name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table.

We have requested that the underwriters make issuer-directed allocations in the aggregate of \_\_\_\_\_ shares of our common stock to certain investors, including our existing stockholders or their affiliated entities.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters’ option to purchase up to an additional 1,102,950 shares of common stock.

	<u>Per Share</u>	<u>Total</u>	
		<u>No Exercise</u>	<u>Full Exercise</u>
Public offering price	\$	\$	\$
Underwriting discounts and commissions to be paid by us:	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately \$4.2 million. We have agreed to reimburse the underwriters for expense relating to clearance of this offering with the Financial Industry Regulatory Authority up to \$35,000.

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed 5% of the total number of shares of common stock offered by them.

We have applied to have our common stock listed on the Nasdaq Global Market under the trading symbol “XLO.”

We and all directors and officers and the holders of substantially all of our outstanding securities have agreed that, without the prior written consent of Morgan Stanley & Co. LLC and Cowen and Company, LLC, on behalf of the underwriters, we and they will not, and will not publicly disclose an intention to, during the period ending 180 days after the date of this prospectus (the “restricted period”):

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- file any registration statement with the Securities and Exchange Commission relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock;

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person agrees that, without the prior written consent of Morgan Stanley & Co. LLC and Cowen and Company, LLC, on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

The restrictions described in the immediately preceding paragraph do not apply to our directors, officers and securityholders with respect to:

- transfers or dispositions of shares of our common stock purchased in this offering from the underwriters (other than any issuer-directed shares of our common stock purchased in this offering by our officers or directors) or on the open market following this offering;
- transfers of shares of our common stock or any security convertible into or exercisable or exchangeable for such common stock as a bona fide gift or gifts, or for bona fide estate planning purposes;
- transfers or dispositions of shares of our common stock or any security convertible into or exercisable or exchangeable for such common stock to any member of the immediate family of the holder or any trust for the direct or indirect benefit of the holder or the immediate family of the holder, or if the holder is a trust, to any beneficiary (including such beneficiary’s estate) of the holder, in a transaction not involving a disposition for value;
- transfers or dispositions of shares of our common stock or any security convertible into or exercisable or exchangeable for such common stock to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held by the holder or a member of the immediate family of the holder;
- transfers or dispositions of shares of our common stock or any security convertible into or exercisable or exchangeable for such common stock (i) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the holder upon the death of the holder or (ii) in connection with a divorce settlement or solely by operation of law, such as pursuant to a qualified domestic order or court order;
- if the holder is an entity, transfers or distributions of shares of our common stock or any security convertible into such common stock to general or limited partners, members or stockholders of the holder, its direct or indirect affiliates (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) or to an investment fund or other entity that controls or manages, or is under common control with, the holder or, for certain holders, to the partners, members, managers, officers, directors and trustees of the holder and its affiliates;

- transfers or dispositions of shares of our common stock or any security convertible into or exercisable or exchangeable such common stock to us pursuant to any contractual arrangement in effect on the date of the underwriting agreement and disclosed to the underwriters that provides for the repurchase of the holder's common stock or other securities or in connection with the termination of the holder's employment with or service to us;
- the conversion of outstanding shares of our convertible preferred stock into shares of common stock, provided that such shares of common stock received upon conversion shall be subject to the restrictions described above;
- the exercise of stock options to purchase shares of our common stock granted under any equity incentive plan described herein and any related transfer to us of shares of our common stock (including by way of "net" or "cashless" exercise solely to cover withholding tax obligations in connection with such exercise and any transfer to us for the payment of taxes as a result of such exercise), provided that the underlying shares issuable upon exercise will continue to be subject to the restrictions described above and provided, further, that no filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of shares of our common stock will be required or will be voluntarily made during the restricted period (other than a filing on a Form 4 that reports such disposition under the transaction code "F");
- the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of our common stock, provided that (i) such plan does not provide for any transfers of our common stock during the restricted period, and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required or voluntarily made regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the restricted period; and
- (i) transfers of shares of our common stock (or any securities convertible into or exercisable or exchangeable for such common stock) pursuant to a bona fide third-party tender offer for shares of our capital stock made to all holders of our securities, merger, consolidation or other similar transaction approved by our board of directors the result of which is that any person, or group of persons, other than us, becomes the beneficial owner of more than 50% of the total voting power of our voting stock and (ii) entry into any lock-up, voting or similar agreement pursuant to which the holder may agree to transfer, sell, tender or otherwise dispose of shares of our common stock or such other securities in connection with a transaction described in (i) above; provided that in the event that such change of control transaction is not completed, our common stock (or any security convertible into or exercisable or exchangeable for our common stock) owned by the holder shall remain subject to the restrictions described above.

The restrictions on transfers or other dispositions by us described above do not apply to:

- the shares to be sold in this offering;
- the issuance by us of shares of common stock upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof as described in this prospectus;
- the grant of any options to purchase shares of common stock or other awards granted under a stock incentive plan or stock purchase plan described in this prospectus, and the issuance by us of shares of common stock upon the exercise thereof, provided that we shall cause each recipient of such grant to execute and deliver to the representatives a lock-up agreement if such recipient has not already delivered one;
- the filing by us of any registration statement on Form S-8 or a successor form thereto relating to the shares of common stock granted pursuant to or reserved for issuance under a stock incentive plan or stock purchase plan described in this prospectus;
- shares of common stock or other securities issued in connection with a transaction with an unaffiliated third party that includes a debt financing or a bona fide commercial relationship (including joint ventures, marketing or distribution arrangements, collaboration agreements, or intellectual property license agreements) or any acquisition of assets or acquisition of not less than a majority or controlling



portion of the equity of another entity, provided that (i) the aggregate number of shares issued shall not exceed 5% of the total number of outstanding shares of common stock immediately following the issuance and sale of the shares to be sold in this offering and (ii) the recipient of any such shares of common stock and securities issued during the 180-day restricted period described above shall enter into a lock-up agreement; or

- facilitating the establishment of a trading plan on behalf of one of our stockholders, officers or directors pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock, provided that (i) such plan does not provide for the transfer of common stock during the restricted period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by us regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the restricted period.

Morgan Stanley & Co. LLC and Cowen and Company, LLC, in their sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

In order to facilitate the offering of the common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option. The underwriters can close out a covered short sale by exercising the over-allotment option or purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also sell shares in excess of the over-allotment option, creating a naked short position. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. As an additional means of facilitating this offering, the underwriters may bid for, and purchase, shares of common stock in the open market to stabilize the price of the common stock. These activities may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on websites maintained by one or more underwriters, or selling group members, if any, participating in this offering. The representatives may agree to allocate a number of shares of common stock to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters that may make Internet distributions on the same basis as other allocations.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for us, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments. The underwriters and their respective affiliates may also make investment recommendations or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

### **Pricing of the Offering**

Prior to this offering, there has been no public market for our common stock. The initial public offering price was determined by negotiations between us and the representatives. Among the factors considered in determining the initial public offering price were our future prospects and those of our industry in general, our sales, earnings and certain other financial and operating information in recent periods, and the price-earnings ratios, price-sales ratios, market prices of securities, and certain financial and operating information of companies engaged in activities similar to ours.

### **Selling Restrictions**

#### ***Canada***

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

#### ***European Economic Area***

In relation to each Member State of the European Economic Area (each a Relevant State), no shares of common stock have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares of common stock which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that the shares of common stock may be offered to the public in that Relevant State at any time:

- to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;
- to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation), subject to obtaining the prior consent of representatives for any such offer; or
- in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of the shares of common stock shall require us or any of the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to the shares of common stock in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of common stock to be offered so as to enable an investor to decide to purchase or subscribe for any shares of common stock, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

**United Kingdom**

No shares of common stock have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the shares of common stock which has been approved by the Financial Conduct Authority, except that the shares of common stock may be offered to the public in the United Kingdom at any time:

- (a) to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;
- (b) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or
- (c) in any other circumstances falling within Section 86 of the FSMA.

provided that no such offer of the shares of common stock shall require the Issuer or any Manager to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. For the purposes of this provision, the expression an “offer to the public” in relation to the shares of common stock in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any shares of common stock to be offered so as to enable an investor to decide to purchase or subscribe for any shares of common stock and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

**Hong Kong**

Shares of our common stock may not be offered or sold by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), (ii) to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a “prospectus” within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), and no advertisement, invitation, or document relating to shares of our common stock may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares of our common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder.

**Japan**

No registration pursuant to Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended), or the FIEL has been made or will be made with respect to the solicitation of the application for the acquisition of the shares of common stock.

Accordingly, the shares of common stock have not been, directly or indirectly, offered or sold and will not be, directly or indirectly, offered or sold in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements, and otherwise in compliance with, the FIEL and the other applicable laws and regulations of Japan.

**For Qualified Institutional Investors, or QII**

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the shares of common stock constitutes either a “QII only private placement” or a “QII only secondary distribution” (each as described in Paragraph 1, Article 23-13 of the

FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the shares of common stock. The shares of common stock may only be transferred to QIIs.

***For Non-QII Investors***

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the shares of common stock constitutes either a “small number private placement” or a “small number private secondary distribution” (each as is described in Paragraph 4, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the shares of common stock. The shares of common stock may only be transferred en bloc without subdivision to a single investor.

***Singapore***

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of shares of our common stock may not be circulated or distributed, nor may the shares of our common stock be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where shares of our common stock are subscribed or purchased under Section 275 by a relevant person which is: (i) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (ii) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures, and units of shares and debentures of that corporation or the beneficiaries’ rights and interest in that trust shall not be transferable for 6 months after that corporation or that trust has acquired shares of our common stock under Section 275 except: (a) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA; (b) where no consideration is given for the transfer; or (c) by operation of law.

***Switzerland***

The shares of common stock may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland. Neither this document nor any other offering or marketing material relating to the offering, us, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority, or FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

***Dubai International Financial Centre***

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, or DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt

Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

### LEGAL MATTERS

The validity of the shares of common stock offered hereby is being passed upon for us by Wilmer Cutler Pickering Hale and Dorr LLP, Boston, Massachusetts. Cooley LLP, New York, New York, is acting as counsel for the underwriters in connection with this offering.

### EXPERTS

The consolidated financial statements of Xilio Therapeutics, Inc. at December 31, 2019 and 2020, and for each of the two years in the period ended December 31, 2020, appearing in this prospectus and registration statement have been audited by Ernst & Young LLP, or EY, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

Prior to February 23, 2021, F-Prime Capital Partners Healthcare Fund IV, or F-Prime, was a beneficial owner with decision making capacity over the financial and operating policies of the Company. During 2019 and 2020, EY entered into two business relationships with an entity under common control with F-Prime, or Entity A, which are inconsistent with the auditor independence rules of the U.S. Securities and Exchange Commission, or SEC, and Public Company Accounting Oversight Board (United States), as described below:

- Since November 2019, EY has provided fiduciary trust tax compliance and support services for certain trust and agency accounts managed by Entity A. EY was engaged by Entity A as agent for the trustee to prepare tax filings to fulfill the trustee's fiduciary filing obligation for a subset of these accounts. The fees earned by EY related to services for these accounts through February 23, 2021 were approximately \$53,000.
- Since December 2020, EY and Entity A have been party to an agreement for referral services whereby Entity A may introduce its customers through links on Entity A's website to EY for personal tax services. No fees were earned or received by EY related to referral services pursuant to this agreement as of February 23, 2021.

These independence matters were resolved when F-Prime ceased to be a beneficial owner with significant influence over the operating and financial policies of the Company on February 23, 2021. The business relationships were not quantitatively or qualitatively material to EY or Entity A, and the tax services underlying the business relationships had no impact on the consolidated financial statements of the Company or EY's related audit procedures and judgments.

After careful consideration of the facts and circumstances and the applicable independence rules, EY has concluded that (i) the aforementioned matters do not impair EY's ability to exercise objective and impartial judgment in connection with its audits of the Company's consolidated financial statements, and (ii) a reasonable investor with knowledge of all relevant facts and circumstances would reach the same conclusion. After considering these matters and based on the totality of the information provided, management and the Audit Committee of the Company concurred with EY's conclusions.

### WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock we are offering to sell. This prospectus, which constitutes part of the registration statement, does not include all of the information contained in the registration statement or the exhibits, schedules and amendments to the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and to the exhibits and schedules to the registration statement. Statements contained in this prospectus about the contents of any contract, agreement or other document are not necessarily complete, and, in each instance, we refer you to the copy of the contract, agreement or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference to such contract, agreement or document.

The SEC maintains a website, which is located at <http://www.sec.gov>, that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. You may access the registration statement of which this prospectus forms a part at the SEC's website. Upon closing of

this offering, we will be subject to the information reporting requirements of the Exchange Act and we will file reports, proxy statements and other information with the SEC. We plan to fulfill our obligations with respect to such requirements by filing periodic reports and other information with the SEC. We intend to furnish our stockholders with annual reports containing financial statements certified by an independent registered public accounting firm. Our website address is [www.xiliotx.com](http://www.xiliotx.com), and upon completion of the offering, you may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

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**Report of Independent Registered Public Accounting Firm**

To the Stockholders and the Board of Directors of Xilio Therapeutics, Inc.

**Opinion on the Financial Statements**

We have audited the accompanying consolidated balance sheets of Xilio Therapeutics, Inc. (the Company) as of December 31, 2019 and 2020, the related consolidated statements of operations and comprehensive loss, preferred units and convertible preferred stock and members' and stockholders' deficit, and cash flows for each of the two years in the period ended December 31, 2020, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2020, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

**Basis for Opinion**

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2020.

Boston, Massachusetts

May 24, 2021, except for Note 18(f), as to which the date is October 18, 2021

**XILIO THERAPEUTICS, INC.**  
**CONSOLIDATED BALANCE SHEETS**  
(In thousands, except unit and share and per unit and per share data)

	December 31, 2019	December 31, 2020
<b>ASSETS</b>		
Current assets		
Cash and cash equivalents	\$ 48,845	\$ 19,238
Prepaid expenses	1,253	1,308
Other current assets	1,006	44
Total current assets	51,104	20,590
Restricted cash	194	1,551
Property and equipment, net	3,305	7,367
Operating lease right-of-use asset	6,568	6,309
Other non-current assets	1,551	500
Total assets	<u>\$ 62,722</u>	<u>\$ 36,317</u>
<b>LIABILITIES AND MEMBERS' AND STOCKHOLDERS' DEFICIT</b>		
Current liabilities		
Accounts payable	\$ 2,518	\$ 5,444
Accrued expenses	2,689	13,732
Operating lease liability, current portion	—	564
Notes payable, current portion	—	2,333
Other current liabilities	—	82
Total current liabilities	5,207	22,155
Notes payable, net of current portion	9,610	7,412
Operating lease liability, net of current portion	9,021	10,908
Other liabilities, long-term	374	1,127
Total liabilities	24,212	41,602
Commitments and contingencies (Note 10)		
Preferred units (Series A, A-1 and B), no par value, 94,283,876 units authorized and 58,883,390 units issued and outstanding at December 31, 2019; aggregate liquidation preference of \$70,250 at December 31, 2019; no preferred units authorized, issued or outstanding at December 31, 2020	68,033	—
Convertible preferred stock (Series A, A-1, A-2(A), A-2(A-1) and B), \$0.0001 par value, no shares authorized, issued or outstanding at December 31, 2019; 133,602,056 shares authorized and 66,788,528 shares issued and outstanding at December 31, 2020; aggregate liquidation preference of \$80,250 at December 31, 2020	—	78,002
Members' and stockholders' deficit		
Common units, no par value; 98,172,319 units authorized, 421,046 units issued, and 409,303 units outstanding at December 31, 2019; no units authorized, issued or outstanding at December 31, 2020	—	—
Common stock, \$0.0001 par value; no shares authorized, issued or outstanding at December 31, 2019; 126,000,000 shares authorized, 973,898 shares issued, and 689,929 shares outstanding at December 31, 2020	—	—
Additional paid-in capital	344	1,799
Accumulated deficit	(29,867)	(85,086)
Total members' and stockholders' deficit	(29,523)	(83,287)
Total liabilities, preferred units, convertible preferred stock and members' and stockholders' deficit	<u>\$ 62,722</u>	<u>\$ 36,317</u>

The accompanying notes are an integral part of these consolidated financial statements.

## XILIO THERAPEUTICS, INC.

**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS**  
(In thousands, except unit and share and per unit and per share data)

	For the Year Ended December 31, 2019	For the Year Ended December 31, 2020
Operating expenses		
Research and development	\$ 14,256	\$ 43,910
General and administrative	4,771	10,653
Total operating expenses	19,027	54,563
Loss from operations	(19,027)	(54,563)
Other income (expense), net		
Gain on tranche rights	1,739	—
Other expense, net	(23)	(656)
Total other income (expense), net	1,716	(656)
Net loss and comprehensive loss	\$ (17,311)	\$ (55,219)
Net loss per unit, basic and diluted	\$ (42.29)	
Net loss per share, basic and diluted		\$ (105.42)
Weighted average common units outstanding, basic and diluted	409,303	
Weighted average common shares outstanding, basic and diluted		523,786

The accompanying notes are an integral part of these consolidated financial statements.

**XILIO THERAPEUTICS, INC.**  
**CONSOLIDATED STATEMENTS OF PREFERRED UNITS AND CONVERTIBLE PREFERRED STOCK AND**  
**MEMBERS' AND STOCKHOLDERS' DEFICIT**  
(In thousands, except unit and share data)

	Series A Preferred Units		Series A-1 Preferred Units		Series B Preferred Units		Series A Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Series B Convertible Preferred Stock		Common Units		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Members' and Stockholders' Deficit
	Units	Amount	Units	Amount	Units	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Units	Amount	Shares	Amount			
<b>Balance at December 31, 2018</b>	7,500,000	\$ 7,309	10,869,564	\$ 10,756	—	\$ —	—	\$ —	—	\$ —	—	\$ —	409,303	\$ —	—	\$ —	232	\$ (12,556)	\$ (12,324)
Issuance of Series A-1 preferred units, net of issuance costs of \$16	—	—	8,695,652	9,984	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Issuance of Series B preferred units, net of issuance costs of \$266	—	—	—	—	31,818,174	39,984	—	—	—	—	—	—	—	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	112	—	112
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(17,311)	(17,311)
<b>Balance at December 31, 2019</b>	7,500,000	\$ 7,309	19,565,216	\$ 20,740	31,818,174	\$ 39,984	—	\$ —	—	\$ —	—	\$ —	409,303	\$ —	—	\$ —	344	\$ (29,867)	\$ (29,523)
Issuance of Series B preferred units, net of issuance costs of \$31	—	—	—	—	7,905,138	9,969	—	—	—	—	—	—	—	—	—	—	—	—	—
Effect on Reorganization	(7,500,000)	(7,309)	(19,565,216)	(20,740)	(39,723,312)	(49,953)	7,500,000	7,309	19,565,216	20,740	39,723,312	49,953	(409,303)	—	409,303	—	—	—	—
Vesting of restricted common stock	—	—	—	—	—	—	—	—	—	—	—	—	—	—	251,732	—	—	—	—
Exercise of stock options	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28,894	—	159	—	159
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,296	—	1,296
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(55,219)	(55,219)
<b>Balance at December 31, 2020</b>	—	\$ —	—	\$ —	—	\$ —	7,500,000	\$ 7,309	19,565,216	\$ 20,740	39,723,312	\$ 49,953	—	\$ —	689,929	\$ —	1,799	\$ (85,086)	\$ (83,287)

The accompanying notes are an integral part of these consolidated financial statements.

**XILIO THERAPEUTICS, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(In thousands)

	For the Year Ended December 31, 2019	For the Year Ended December 31, 2020
<b>Cash flows from operating activities:</b>		
Net loss	\$ (17,311)	\$ (55,219)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	240	1,065
Non-cash interest expense	56	39
Stock-based compensation expense	112	1,296
Change in fair value of tranche right, warrant and derivative liabilities	(1,737)	126
Changes in operating assets and liabilities:		
Prepaid and other assets	(2,748)	2,282
Operating lease right-of-use asset	217	299
Accounts payable	970	2,926
Accrued expenses and other liabilities	2,168	11,510
Operating lease liability	190	(415)
Net cash used in operating activities	(17,843)	(36,091)
<b>Cash flows from investing activities:</b>		
Purchases of property and equipment	(715)	(2,188)
Net cash used in investing activities	(715)	(2,188)
<b>Cash flows from financing activities:</b>		
Proceeds from debt issuance, net of issuance costs	9,952	—
Proceeds from issuance of Series A-1 preferred units, net of issuance costs	9,984	—
Payments of finance lease	—	(99)
Proceeds from issuance of Series B preferred units, net of issuance costs	40,084	9,969
Proceeds from exercise of stock options	—	159
Net cash provided by financing activities	60,020	10,029
Increase (decrease) in cash, cash equivalents & restricted cash	41,462	(28,250)
Cash, cash equivalents and restricted cash, beginning of period	7,577	49,039
Cash, cash equivalents and restricted cash, end of period	\$ 49,039	\$ 20,789
<b>Supplemental cash flow disclosure:</b>		
Cash paid for interest	\$ 14	\$ 536
<b>Supplemental disclosure of non-cash activities:</b>		
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 6,785	\$ 39
Right-of-use assets obtained in exchange for finance lease liabilities	\$ —	\$ 423
Tenant improvements funded by landlord	\$ 2,046	\$ 2,827
Tenant improvement reimbursement due from landlord	\$ 926	\$ —
Recognition of derivative liability in connection with long-term debt facility	\$ 357	\$ —
Accrued Series B preferred unit issuance costs	\$ 100	\$ —

The accompanying notes are an integral part of these consolidated financial statements.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. Description of Business, Organization and Liquidity**

***Description of Business***

Xilio Therapeutics, Inc., incorporated in Delaware in June 2020, is a biotechnology company focused on harnessing the immune system to achieve deep and durable clinical responses to improve the lives of patients with cancer.

For purposes of these consolidated financial statements, the “Company” refers to Xilio Therapeutics LLC (formerly Akriveia Therapeutics Inc., Akriveia Therapeutics LLC and Akrevia Therapeutics LLC) prior to the reorganization described below, and Xilio Therapeutics, Inc. after such reorganization. The Company’s headquarters are in Waltham, Massachusetts.

***Organization***

Akriveia Therapeutics Inc. was incorporated in Delaware in June 2015. In May 2016, Akriveia Therapeutics Inc. completed its first tax free reorganization and the parent entity became Akriveia Therapeutics LLC. Akriveia Therapeutics LLC subsequently changed its name to Akrevia Therapeutics LLC in May 2018 and then to Xilio Therapeutics LLC in February 2020. In June 2020, the Company completed a series of transactions pursuant to which Xilio Therapeutics LLC became a direct, wholly owned subsidiary of Xilio Therapeutics, Inc., and all of the outstanding membership interests of Xilio Therapeutics LLC were exchanged for equity securities of Xilio Therapeutics, Inc. and Xilio Therapeutics, Inc. became the parent entity (the “Reorganization”). The purpose of the transaction was to reorganize the corporate structure so that existing investors would own capital stock in a corporation rather than equity interests in a limited liability company.

Upon consummation of the Reorganization, the historical consolidated financial statements of Xilio Therapeutics LLC became the historical consolidated financial statements of Xilio Therapeutics, Inc.

***Liquidity***

Since inception, the Company has devoted substantially all of its financial resources and efforts to research and development activities.

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, risks associated with completing research programs and conducting additional research programs, advancing the Company’s current and future product candidates into preclinical and clinical development, seeking marketing approvals for any product candidates that successfully complete clinical trials, obtaining, expanding, maintaining and defending the Company’s intellectual property, and hiring additional clinical, regulatory, and scientific personnel. Programs currently under development will require significant additional research and development efforts, including preclinical and clinical testing and will need to obtain regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if the Company’s product development efforts are successful, it is uncertain when, if ever, the Company will realize revenue from product sales.

The Company has primarily funded its operations with proceeds from private placements of preferred units, which were exchanged for shares of convertible preferred stock, private placements of convertible preferred stock and a debt financing. From inception through December 31, 2020, the Company has raised \$89.6 million in aggregate cash proceeds from these transactions, net of issuance costs. In January 2021, the Company issued and sold additional shares of Series B convertible preferred stock for aggregate cash proceeds of \$50.2 million, net of issuance costs. In February 2021, the Company issued and sold shares of Series C convertible preferred stock for aggregate cash proceeds of \$94.7 million, net of issuance costs. The Company has determined that its existing capital resources, including the cash proceeds received from the sale of its Series B convertible preferred stock and Series C convertible preferred stock in January 2021 and February 2021, respectively, will be sufficient to meet the projected operating requirements and capital

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

**1. Description of Business, Organization and Liquidity (Continued)*****Liquidity (Continued)***

expenditures for at least twelve months from the date of issuance of these consolidated financial statements. The Company expects to continue to generate negative cash flows from operations and net losses for the foreseeable future as it continues to invest significantly in research and development of its product candidates, including preclinical, clinical and manufacturing process development. Management's conclusion with respect to its ability to fund operations is based on estimates that are subject to risks and uncertainties that may prove to be incorrect. If actual results differ from management's estimates, the Company may be required to seek additional funding or curtail planned activities to reduce operating expenses, which may have an adverse impact on the Company's ability to achieve its business objectives.

**2. Summary of Significant Accounting Policies*****Basis of Presentation***

These consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASUs") of the Financial Accounting Standards Board ("FASB").

In April 2012, the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act") was enacted. Section 107(b) of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. The Company has elected not to "opt out" of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, the Company can adopt the new or revised standard at the time private companies adopt the new or revised standard and may do so until such time that the Company either (1) irrevocably elects to "opt out" of such extended transition period or (2) no longer qualifies as an emerging growth company. The Company may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of its initial public offering or such earlier time that it is no longer an emerging growth company.

***Principles of Consolidation***

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. Following the Reorganization, the accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries Xilio Therapeutics LLC, Xilio Concerto LLC ("Concerto"), Xilio Development, Inc. ("Xilio Development") and Xilio Securities Corp., which is a Massachusetts subsidiary created to buy, sell and hold securities. All intercompany accounts and transactions have been eliminated.

***Use of Estimates***

The preparation of financial statements in accordance with GAAP requires management to make estimates and judgments that may affect the reported amounts of assets and liabilities and related disclosures of contingent assets and liabilities at the date of the financial statements and the related reporting of expenses during the reporting period. Management considers many factors in selecting appropriate financial accounting policies and controls, and in developing the estimates and assumptions that are used in the preparation of these consolidated financial statements. Factors that may affect estimates, include expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates, and whether historical trends are expected to be representative of future trends. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes and management must

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**2. Summary of Significant Accounting Policies (Continued)**

***Use of Estimates (Continued)***

select an amount that falls within that range of reasonable estimates. Significant estimates of accounting reflected in these consolidated financial statements include, but are not limited to, estimates related to accrued expenses, the fair value of the Company's preferred unit tranche rights, contingent amounts payable to third parties upon the consummation of specified transactions, including an initial public offering, the valuation of equity-based compensation, including incentive units, stock options and restricted common stock, and income taxes. Actual results could differ from those estimates.

***Segment Information***

The Company has one operating segment. Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision-maker in deciding how to allocate resources and assess performance. The Company's chief operating decision-maker is its chief executive officer. The Company and its chief operating decision-maker view the Company's operations and manage its business as a single operating segment. All of the Company's long-lived assets are held in the United States.

***Cash Equivalents and Restricted Cash***

The Company considers all short-term, highly liquid investments with original maturities of 90 days or less at acquisition date to be cash equivalents. Cash equivalents, which consist of money market accounts, are stated at fair value. At December 31, 2020, restricted cash primarily represented a letter of credit issued to the landlord of the Company's facility lease. At December 31, 2019, restricted cash primarily represented cash held in a separate restricted bank account as collateral for the Company's credit card facility with a bank. Restricted cash is reflected in non-current assets on the accompanying consolidated balance sheets. Cash, cash equivalents and restricted cash consists of the following (in thousands):

	<b>Balance at December 31, 2019</b>	<b>Balance at December 31, 2020</b>
Cash and cash equivalents	\$ 48,845	\$ 19,238
Restricted cash	194	1,551
Total cash, cash equivalents and restricted cash as shown on the consolidated statement of cash flows	<u>\$ 49,039</u>	<u>\$ 20,789</u>

***Concentrations of Credit Risk and Significant Suppliers***

Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents. The Company holds all cash and cash equivalents at accredited financial institutions. Bank accounts in the United States are insured by the Federal Deposit Insurance Corporation ("FDIC") up to \$250,000. As of December 31, 2019 and 2020, certain of the Company's primary operating accounts significantly exceeded the FDIC limits. The Company does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

The Company is dependent on third-party manufacturers to supply preclinical material for research and development. These activities and research programs could be adversely affected by a significant interruption in the supply of such products.

***Fair Value Measurements***

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most



**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**2. Summary of Significant Accounting Policies (Continued)**

***Fair Value Measurements (Continued)***

advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- *Level 1*—Quoted prices in active markets for identical assets or liabilities.
- *Level 2*—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- *Level 3*—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

To the extent the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

The carrying values of the Company's cash, prepaid expenses, accounts payable and accrued expenses approximate their fair value due to their short-term nature. The carrying value of the Company's outstanding debt as of December 31, 2019 and 2020 approximates fair value based on the variable interest rate for the borrowings as well as the short duration of the term of the note. Items measured at fair value on a recurring basis include cash equivalents, the preferred unit tranche rights, the preferred warrant and contingent liabilities associated with the consummation of specified transactions, including an initial public offering.

***Property and Equipment***

Property and equipment is stated at cost, net of accumulated depreciation and amortization. Depreciation and amortization are calculated using the straight-line method over the estimated useful lives of the assets, which are as follows:

	<u>Estimated Useful Life</u>
Computers and software	3 years
Laboratory equipment	5 years
Furniture and fixtures	5 years
Leasehold improvements	Shorter of the useful life or the remaining term of the lease

Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation and amortization are removed from the accounts and any resulting gain or loss is included in loss from operations. Expenditures for repairs and maintenance that do not improve or extend the lives of the respective assets are charged to expense as incurred, while costs of major additions and betterments are capitalized.

***Impairment of Long-Lived Assets***

The Company periodically evaluates its long-lived assets, which consist of property and equipment, and any leased assets, for impairment whenever events or changes in circumstances indicate that a potential impairment may have occurred. If such events or changes in circumstances arise, the Company compares the carrying

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

**2. Summary of Significant Accounting Policies (Continued)*****Impairment of Long-Lived Assets (Continued)***

amount of the long-lived assets to the estimated future undiscounted cash flows expected to be generated by the long-lived assets. If the estimated aggregate undiscounted cash flows are less than the carrying amount of the long-lived assets, an impairment charge, calculated as the amount by which the carrying amount of the assets exceeds the estimated fair value of the assets, is recorded. The estimated fair value of the long-lived assets is determined based on the estimated discounted cash flows expected to be generated from the long-lived assets. The Company did not recognize impairment charges during the years ended December 31, 2019 and 2020, respectively.

***Leases***

Under ASC Topic 842, *Leases* ("Topic 842"), which was adopted January 1, 2019, the Company determines if an arrangement is or contains a lease at inception. Operating leases are included in right-of-use lease assets ("ROU assets"), current portion of lease obligations and long-term lease obligations on the Company's consolidated balance sheets. Lease expense for operating leases is recognized on a straight-line basis over the lease term as an operating expense. Assets subject to finance leases are included in other non-current assets and the related lease obligation is included in other current liabilities and other long-term liabilities on the Company's consolidated balance sheets. Lease expense for finance leases is recognized as depreciation expense and interest expense using the effective interest method. The Company has elected the short-term lease recognition exemption for short-term leases, which allows the Company not to recognize lease liabilities and ROU assets on the consolidated balance sheets for leases with an original term of twelve months or less.

ROU assets represent the Company's right to use an underlying asset for the lease term, and lease obligations represent the Company's obligation to make lease payments arising from the lease. Operating lease liabilities and their corresponding ROU assets are initially recorded based on the present value of lease payments over the expected remaining lease term. When determining the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Certain adjustments to the ROU asset may be required for items such as incentives received. The interest rate implicit in lease contracts is typically not readily determinable. As a result, the Company utilizes its incremental borrowing rate to discount lease payments. The incremental borrowing rate reflects the fixed rate at which the Company could borrow, on a collateralized basis, the amount of the lease payments in the same currency, for a similar term, in a similar economic environment. Prospectively, the Company will adjust the ROU assets for straight-line rent expense or any incentives received and remeasure the lease liability at the net present value using the same incremental borrowing rate that was in effect as of the lease commencement or transition date.

The Company has lease agreements with lease and non-lease components, which are accounted for as a combined element.

***Research and Development Costs and Accruals***

Research and development expenses are expensed as incurred and consist of costs incurred in performing research and development activities, including compensation related expenses for research and development personnel, preclinical and clinical activities including cost of supply and manufacturing process development activities, overhead expenses including facilities expenses, materials and supplies, amounts paid to consultants and outside service providers, and depreciation of equipment. Upfront payments made for the licensing of technology are expensed as research and development expenses in the period in which they are incurred. In general, contingent payments are recognized when it becomes probable the payment will be required. Any contingent payments that qualify as a derivative liability are recognized at fair value on the Company's consolidated balance sheets. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. The prepaid amounts are expensed as the related goods are delivered or the services are performed.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**2. Summary of Significant Accounting Policies (Continued)**

***Research and Development Costs and Accruals (Continued)***

The Company records accruals for estimated ongoing research and development costs, including costs associated with contracts with third-party contract research organizations and contract manufacturing organizations. When evaluating the adequacy of the accrued liabilities, the Company analyzes progress of the preclinical studies or clinical trials, including the phase or completion of events, invoices received and contracted costs. Significant judgments and estimates are made in determining the accrued balances at the end of any reporting period. Actual results could differ from the Company's estimates. The Company's historical accrual estimates have not been materially different from the actual costs.

***Acquired In-Process Research and Development ("IPR&D")***

If the Company acquires an asset or group of assets under an in-licensing arrangement that does not meet the definition of a business under ASC Topic 805, *Business Combinations*, and the acquired IPR&D does not have an alternative future use, it is expensed on its acquisition date in accordance with guidance in ASC Topic 730, *Research and Development*. Contingent payments for the assets acquired are expensed or capitalized based on the nature of the associated asset at the date the payment is recognized.

***Patent Costs***

All patent-related costs incurred in connection with filing and prosecuting patent applications are expensed as incurred due to the uncertainty about the recovery of the expenditure. Amounts incurred are classified as general and administrative expenses in the accompanying consolidated statements of operations and comprehensive loss.

***Equity-Based Compensation***

The Company accounts for equity awards, including grants of incentive units, common units, restricted stock and stock options, in accordance with ASC 718, *Compensation—Stock Compensation* ("Topic 718"). Topic 718 requires all equity-based payments to employees, which includes grants of employee equity awards, to be recognized in the consolidated statements of operations and comprehensive loss based on their grant date fair values.

There are significant judgments and estimates inherent in the determination of the fair value of the common securities. As there is no public market for the Company's common stock, the estimated fair value of common stock was determined by the Company's board of directors as of the date of each equity award, with input from management, considering third-party valuations of its common stock as well as the Company's board of directors' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent third-party valuation through the date of the grant. These objective and subjective factors include: (i) the lack of liquidity of the Company's equity as a private company; (ii) the prices of the Company's preferred units and convertible preferred stock sold to outside investors in arm's length transactions and the rights, preferences and privileges of its preferred units and convertible preferred stock as compared to those of its common units and common stock, including the liquidation preferences of its convertible preferred stock; (iii) the progress of the Company's research and development efforts, including the status of preclinical studies for its product candidates; (iv) the Company's stage of development and business strategy and the material risks related to its business and industry; (v) the achievement of enterprise milestones, including entering into strategic collaborative and license agreements; (vi) the valuation of publicly traded companies in the life sciences and biotechnology sectors, as well as recently completed mergers and acquisitions of peer companies; (vii) any external market conditions affecting the biotechnology industry and trends within the biotechnology industry; (viii) the likelihood of achieving a liquidity event, such as an initial public offering or a sale of the Company, given prevailing market conditions; and (ix) the analysis of initial public offerings and the market performance of similar companies in the

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

## 2. Summary of Significant Accounting Policies (Continued)

*Equity-Based Compensation (Continued)*

biotechnology industry. These third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately Held Company Equity Securities Issued as Compensation*. Each valuation methodology includes estimates and assumptions that require the Company's judgment. Significant changes to the key assumptions used in the valuations could result in different fair values of common securities at each valuation date.

The Company estimated the value of its equity using market approaches, including using the market adjusted equity value method, guideline initial public offering, transactions method, and the recent transaction method, which "back solves" to a preferred price. The Company used the option pricing method ("OPM") to allocate enterprise value to classes of securities. Regarding the incentive units, the OPM treats these awards as call options on the equity value of the entity, with exercise prices based on the thresholds at which the allocation amount to the various holders of the entity's equity securities change. The incentive units have value only when funds available for distribution to equity holders exceed the value of the respective thresholds over which the related class of equity participates at the time of the liquidity event. The OPM uses the Black-Scholes option pricing model to price the call options with the fair values as a function of the current fair value of the entity and certain assumptions such as the timing of a potential liquidity event and volatility of the underlying security.

The OPM treats common securities and preferred securities as call options on the enterprise's equity value, with exercise prices based on the liquidation preferences of the preferred securities. Under this method, the common securities have value only if the funds available for distribution to stockholders exceed the value of the liquidation preferences at the time of a liquidity event. The Black-Scholes model is used to price the call option, and the model includes assumptions for the time to liquidity and the volatility of equity value.

The Company estimates the fair value of stock options using the Black-Scholes option pricing model, which uses as inputs the estimated fair value of common stock, and certain management estimates, including the expected stock price volatility, the expected term of the award, the risk-free rate, and expected dividends. Expected volatility is calculated based on reported volatility data for a representative group of publicly traded companies for which historical information is available. The Company selects companies with comparable characteristics with historical share price information that approximates the expected term of the equity-based awards. The Company computes the historical volatility data using the daily closing prices for the selected companies' shares during the equivalent period that approximates the calculated expected term of the stock options. The Company will continue to apply this method until a sufficient amount of historical information regarding the volatility of its stock price becomes available. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant commensurate with the expected term assumption. The Company uses the simplified method, under which the expected term is presumed to be the midpoint between the vesting date and the end of the contractual term. The Company utilizes this method due to lack of historical exercise data. The expected dividend yield is assumed to be zero as the Company has no current plans to pay any dividends on common stock.

For awards with service-based vesting conditions, the Company recognizes equity-based compensation expense on a ratable basis over the vesting period. For awards subject to performance conditions, the Company recognizes equity-based compensation expense using an accelerated recognition method over the remaining service period when the Company determines the achievement of the performance condition is probable. The Company uses judgement to determine whether and, if so, how many awards are deemed probable of vesting at each reporting period. The Company recognizes forfeitures as they occur. The Company classifies equity-based compensation expense in its consolidated statements of operations and comprehensive loss consistent with the classification of the award recipient's compensation expense.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**2. Summary of Significant Accounting Policies (Continued)**

***Preferred Units and Convertible Preferred Stock***

The Company records all preferred units and shares of convertible preferred stock at their respective fair values on the dates of issuance less issuance costs. The Company classifies its preferred units and convertible preferred stock outside of members' or stockholders' deficit when the redemption of such units or shares is outside the Company's control. The Company does not adjust the carrying values of the preferred units or convertible preferred stock to the liquidation preferences of such units or stock until such time as a deemed liquidation event is probable of occurring.

***Comprehensive Loss***

Comprehensive loss is the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. Comprehensive loss includes net loss and the change in accumulated other comprehensive loss for the period. The Company did not have any items of comprehensive income or loss other than net loss for the years ended December 31, 2019 and 2020.

***Net Loss Per Unit and Per Share***

The Company applies the two-class method to compute basic and diluted net loss per unit and net loss per share because it has issued units and shares that meet the definition of participating securities. The two-class method determines net loss per unit and share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires losses available to common unit holders and common stockholders for the period to be allocated between common and participating securities based upon their respective rights to share in the earnings as if all losses for the period had been distributed. During periods of loss, there is no allocation required under the two-class method since the participating securities do not have a contractual obligation to fund the losses of the Company.

Prior to the Reorganization, the Company calculated basic net loss per unit by dividing net loss by the weighted average number of common units outstanding. Following the Reorganization, the Company calculates basic net loss per share by dividing net loss by the weighted average number of shares of common stock outstanding, excluding unvested restricted common stock. For the year ended December 31, 2020, the weighted average number of shares of common stock outstanding includes the weighted average number of common units outstanding prior to the Reorganization. Additionally, for the year ended December 31, 2020, upon the consummation of the Reorganization, the weighted average number of shares of common stock outstanding reflects the impact of the exchange of common units to shares of common stock at a 1:1 conversion ratio and vested incentive units to shares of common stock based on the associated conversion ratio. The Company calculates diluted net loss per unit and diluted net loss per share by dividing net loss by the weighted average number of common units outstanding or weighted average number of shares of common stock outstanding, as applicable, after giving consideration to the dilutive effect of preferred units, convertible preferred stock, incentive units, stock options, restricted common stock and warrants that are outstanding during the period. The Company has generated a net loss in all periods presented, so the basic and diluted net loss per unit and net loss per share are the same, as the inclusion of the potentially dilutive securities would be anti-dilutive.

***Income Taxes***

Prior to the Reorganization, Xilio Therapeutics LLC elected to be treated under the partnership provisions of the Internal Revenue Code. Accordingly, all income and deductions of Xilio Therapeutics LLC were recorded on its members' individual tax returns and no taxes were recorded by Xilio Therapeutics LLC. Xilio Development and Concerto, the wholly owned subsidiaries of Xilio Therapeutics LLC, were taxed as C-corporations for federal income tax purposes and filed separate corporate income tax returns from the LLC entity. Upon the consummation of the Reorganization, Xilio Therapeutics, Inc. became the 100% owner of

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**2. Summary of Significant Accounting Policies (Continued)**

***Income Taxes (Continued)***

Xilio Therapeutics LLC, creating a new corporate parent company and a consolidated group for income tax reporting. The Reorganization and change in tax status of the reporting entity did not have an impact on the consolidated tax provision.

Income taxes for Xilio Therapeutics, Inc. are recorded in accordance with ASC Topic 740, *Income Taxes*, which provides for deferred taxes using an asset and liability approach. Under this method, deferred income tax assets and liabilities are recognized based on future income tax consequences attributable to differences between the financial statement carrying amount of existing assets and liabilities, and their respective income tax basis. Deferred income tax assets and liabilities are measured using enacted income tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of changes in income tax rates on deferred income tax assets and liabilities is recognized as income or expense in the period that a valuation allowance for any income tax benefits of which future realization is not more likely than not.

The Company provides reserves for potential payments of tax to various tax authorities related to uncertain tax positions. The tax benefits recorded are based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is “more likely than not” to be realized following resolution of any uncertainty related to the tax benefit, assuming that the matter in question will be raised by the tax authorities. At December 31, 2019 and 2020, the Company had not identified any significant uncertain tax positions.

The Company is open to examination by the Internal Revenue Service for the tax years ended December 31, 2017 to December 31, 2020. The Company is currently not under examination by the Internal Revenue Service or any other jurisdictions for any tax years. To the extent the Company has tax attribute carryforwards, the tax years in which the tax attribute was generated may still be adjusted upon examination by the Internal Revenue Service or state tax authorities to the extent utilized in a future period. The Company has not recorded any interest or penalties on any unrecognized tax benefits since its inception.

***Recently Adopted Accounting Pronouncements***

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (“Topic 606”), which amends the existing accounting standards for revenue recognition. The FASB has issued several updates to the standard which: (i) clarify the application of the principal versus agent guidance, (ii) clarify the guidance relating to performance obligations and licensing, (iii) clarify the assessment of the collectability criterion, presentation of sales taxes, measurement date for non-cash consideration and completed contracts and (iv) clarify the narrow aspects of Topic 606 or correct unintended application of the guidance. Topic 606 is based on principles that govern the recognition of revenue at an amount to which an entity expects to be entitled when products and/or services are transferred to customers. The Company adopted this standard using the full retrospective adoption approach as of January 1, 2019. As the Company has not been party to any transactions that fall within the scope of Topic 606, the adoption of this standard did not have a material impact on the Company’s consolidated financial statements and related disclosures.

In February 2016, the FASB issued Topic 842 which replaced the guidance in ASC Topic 840, *Leases*. The updated standard aims to increase transparency and comparability among organizations by requiring lessees to recognize lease assets and lease liabilities on the balance sheet and requiring disclosure of key information about leasing arrangements. This standard became effective for fiscal years beginning after December 15, 2018. The Company adopted the new standard effective January 1, 2019 using the modified retrospective method as of the beginning of the period of adoption. The Company has elected the package of practical expedients permitted in Topic 842. Accordingly, the Company accounted for its existing operating leases as operating leases under the new guidance, without reassessing (a) whether the contracts contain a lease under

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

## 2. Summary of Significant Accounting Policies (Continued)

*Recently Adopted Accounting Pronouncements (Continued)*

Topic 842, (b) whether classification of the operating leases would be different in accordance with Topic 842, or (c) whether the unamortized initial direct costs would have met the definition of initial direct costs in Topic 842 at lease commencement. The Company also elected not to include leases with an initial term of twelve months or less in the recognized ROU asset and lease liabilities. The implementation of this standard did not have a material impact on the Company's consolidated financial statements and related disclosures.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230)—Restricted Cash* ("ASU 2016-18"), which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and restricted cash or restricted cash equivalents. Therefore, amounts described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statements of cash flows. The Company adopted ASU 2016-18 as of January 1, 2019 and as such, the consolidated statements of cash flows include restricted cash with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on such statements.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation—Stock Compensation (Topic 718)—Scope of Modification Accounting* ("ASU 2017-09"). The provisions of ASU 2017-09 provide guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. An entity should account for the effects of a modification unless: (i) the fair value of the modified award is the same as the fair value of the original award, (ii) the vesting conditions of the modified award are the same as the vesting conditions of the original award, and (iii) the classification of the modified award as an equity instrument or a liability instrument is the same as the classification of the original award immediately before the original award was modified. The Company adopted ASU 2017-09 as of January 1, 2019, with prospective application to awards modified on or after the adoption date. The implementation of this standard did not have a material impact on the Company's consolidated financial statements and related disclosures.

In July 2017, the FASB issued ASU No. 2017-11, *Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815): (Part I) Accounting for Certain Financial Instruments with Down Round Features, (Part II) Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception* ("ASU 2017-11"). Part I of this standard applies to entities that issue financial instruments such as warrants, convertible debt or convertible preferred stock that contain down-round features. Part II of this standard replaces the indefinite deferral for certain mandatorily redeemable noncontrolling interests and mandatorily redeemable financial instruments of nonpublic entities contained within ASC Topic 480 with a scope exception and does not impact the accounting for these mandatorily redeemable instruments. ASU 2017-11 was effective for the Company for annual periods beginning on January 1, 2020 and interim periods beginning on January 1, 2021, with early adoption permitted. The Company adopted ASU 2017-11 as of January 1, 2020 and the implementation of this standard did not have a material impact on the Company's consolidated financial statements and related disclosures.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation—Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"), which expands the scope of Topic 718 to include share-based payments to non-employees. The Company adopted this standard as of January 1, 2019. In connection with the adoption of ASU 2018-07, the Company established the fair value of share-based payments to non-employees at the adoption date for existing awards and established the fair value of share-based payments to non-employees at the grant date for awards issued subsequent to January 1, 2019. The adoption of this standard did not materially impact the Company's consolidated financial statements and related disclosures.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**2. Summary of Significant Accounting Policies (Continued)**

***Recently Adopted Accounting Pronouncements (Continued)***

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement* (“ASU 2018-13”), which modifies the disclosure requirements on fair value measurements with respect to Level 3 rollforwards, timing of liquidation of investments in certain entities that calculate net asset value and measurement uncertainty. ASU 2018-13 was effective for the Company on January 1, 2020, with early adoption permitted. The Company adopted ASU 2018-13 on January 1, 2020, and the implementation of this standard did not have a material impact on the Company’s consolidated financial statements and related disclosures.

In November 2018, the FASB issued ASU No. 2018-18, *Collaborative Arrangements (Topic 808)—Clarifying the Interaction between Topic 808 and Topic 606* (“ASU 2018-18”) which clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue when the collaborative arrangement participant is a customer in the context of a unit of accounting and precludes recognizing as revenue consideration received from a collaborative arrangement participant if the participant is not a customer. The Company adopted ASU 2018-18 in conjunction with the adoption of Topic 606 as of January 1, 2019. The implementation of this standard did not have a material impact on the Company’s consolidated financial statements and related disclosures.

***Recently Issued Accounting Pronouncements***

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)—Measurement of Credit Losses on Financial Instruments, which has been subsequently amended by ASU No. 2018-19, ASU No. 2019-04, ASU No. 2019-05, ASU No. 2019-10, ASU No. 2019-11, and ASU No. 2020-03* (“ASU 2016-13”). The provisions of ASU 2016-13 modify the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology and require a consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for the Company on January 1, 2023, with early adoption permitted. The Company is currently evaluating the potential impact that ASU 2016-13 may have on its consolidated financial statements and related disclosures.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740)—Simplifying the Accounting for Income Taxes* (“ASU 2019-12”), as part of its initiative to reduce complexity in the accounting standards. The amendments in ASU 2019-12 eliminate certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. ASU 2019-12 also clarifies and simplifies other aspects of the accounting for income taxes. ASU 2019-12 is effective for the Company on January 1, 2022, with early adoption permitted. The Company is currently evaluating the potential impact that this standard may have on its consolidated financial statements and related disclosures.

In August 2020, the FASB issued ASU No. 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging Contracts in Entity’s Own Equity* (Subtopic 815-40) (“ASU 2020-06”), which reduces the number of accounting models for convertible debt instruments and convertible preferred stock as well as amends the derivatives scope exception for contracts in an entity’s own equity. ASU 2020-06 is effective for the Company on January 1, 2024, with early adoption permitted. The Company is currently evaluating the potential impact that this standard may have on its consolidated financial statements and related disclosures.



**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**3. Fair Value Measurements**

The Company measures the following financial assets and liabilities at fair value on a recurring basis. The fair value of these assets and liabilities was determined as follows (in thousands):

	December 31, 2019	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Financial assets:</b>				
Cash equivalents—money market funds	\$ 310	\$ 310	\$ —	\$ —
<b>Total financial assets</b>	<b>\$ 310</b>	<b>\$ 310</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Financial liabilities:</b>				
Debt derivative liability	\$ 357	\$ —	\$ —	\$ 357
Warrant to purchase Series A preferred units	17	—	—	17
<b>Total financial liabilities</b>	<b>\$ 374</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 374</b>

	December 31, 2020	Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Financial assets:</b>				
Cash equivalents—money market funds	\$ —	\$ —	\$ —	\$ —
<b>Total financial assets</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Financial liabilities:</b>				
Debt derivative liability	\$ 396	\$ —	\$ —	\$ 396
Other derivative liability	407	—	—	407
Warrant to purchase Series A convertible preferred stock	22	—	—	22
<b>Total financial liabilities</b>	<b>\$ 825</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 825</b>

During the years ended December 31, 2019 and 2020, the Company did not hold any investments and there were no transfers between Level 1, Level 2, and Level 3.

The fair value of the warrant liability is calculated utilizing the Black-Scholes option-pricing model and contains significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy.

The fair values of the debt derivative liability and the other derivative liability that are contingently payable upon the consummation of specified transactions, including an initial public offering, are based on significant inputs not observable in the market, including estimates regarding the probability of certain potential future events and outcomes and estimates regarding timing of those events and outcomes, with an applied discount rate representative of time value that represents a Level 3 measurement within the fair value hierarchy.

The following table summarizes the changes in the fair market value of the Company's preferred unit tranche rights, warrant liability, debt derivative liability and other derivative liability, which are classified within the Level 3 fair value hierarchy (in thousands):

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**3. Fair Value Measurements (Continued)**

	Tranche rights	Warrant liability	Debt derivative liability	Other derivative liability	Total level 3 financial liabilities
Balance at December 31, 2018	\$ 1,739	\$ 15	\$ —	\$ —	\$ 1,754
Settlement of tranche rights	(1,739)	—	—	—	(1,739)
Change in fair value of warrant liability	—	2	—	—	2
Recognition of debt derivative	—	—	357	—	357
Balance at December 31, 2019	\$ —	\$ 17	\$ 357	\$ —	\$ 374
Recognition of other derivative liability	—	—	—	325	325
Change in fair value of liability	—	5	39	82	126
Balance at December 31, 2020	\$ —	\$ 22	\$ 396	\$ 407	\$ 825

**4. Property and Equipment, Net**

Property and equipment, net consists of the following as of December 31, 2019 and 2020 (in thousands):

	December 31, 2019	December 31, 2020
Laboratory equipment	\$ 1,435	\$ 2,925
Computers and software	—	228
Furniture & fixtures	—	482
Leasehold improvements	—	5,092
Construction in process	2,200	—
	\$ 3,635	\$ 8,727
Less accumulated depreciation	(330)	(1,360)
	\$ 3,305	\$ 7,367

The Company incurred depreciation and amortization expense of \$0.2 million and \$1.1 million for the years ended December 31, 2019 and 2020, respectively.

**5. Accrued Expenses**

Accrued expenses consist of the following (in thousands):

	December 31, 2019	December 31, 2020
External research and development	\$ 1,277	\$ 11,060
Personnel related	769	2,013
Professional and other	643	659
	\$ 2,689	\$ 13,732

**6. Loan and Security Agreement**

In November 2019, the Company entered into a loan and security agreement with Pacific Western Bank (“PacWest”), as amended by a first amendment dated March 12, 2021 (as amended, the “Loan Agreement”). Pursuant to the Loan Agreement, the Company borrowed \$10.0 million, subject to the Company closing a

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**6. Loan and Security Agreement (Continued)**

Series B preferred unit financing by January 2020 and certain other customary closing conditions. The Company's initial closing of the Series B preferred unit financing occurred in December 2019 (Note 11).

Interest on the outstanding loan balance accrues at a variable annual rate equal to the greater of (i) the prime rate, as defined in the Loan Agreement, plus 0.25% or (ii) 5.00%. The Company is required to make interest-only payments on the loan on a monthly basis through May 21, 2021. Subsequent to the interest-only period, the Company is required to make equal monthly payments of principal plus interest until the loan matures on November 21, 2023. In addition, under the Loan Agreement, the Company is obligated to pay a one-time \$0.5 million fee to PacWest upon the occurrence of specified liquidation events, including an initial public offering. The fee represents a derivative instrument that the Company has bifurcated from the debt arrangement and is carried at fair value with any changes in such fair value recorded to other income (expense), net in the Company's consolidated statements of operations and comprehensive loss. This debt derivative is recorded as a component of other liabilities, long-term on the Company's consolidated balance sheets. Upon the closing of the loan, the fair value of the debt derivative liability was \$0.4 million that, together with certain legal and other fees incurred by the Company and associated with the Loan Agreement, was recognized as a debt discount and reflected as a reduction in the carrying value of the debt. The debt discount is being accreted and recognized as additional interest expense over the term of the Loan Agreement using the effective interest method.

The Loan Agreement contains customary representations, warranties and covenants and also includes customary events of default, including payment defaults, breaches of covenants, a change of control and occurrence of a material adverse effect. As security for its obligations under the Loan Agreement, the Company granted PacWest a first priority security interest on substantially all of the Company's assets (other than intellectual property), subject to certain exceptions. The Company has determined that the risk of subjective acceleration under the material adverse effect clause was not probable and therefore has classified the long-term portion of the outstanding principal in non-current liabilities. Upon the occurrence and continuation of an event of default, a default interest rate of an additional 5% per annum may be applied to the outstanding loan balance, and the administrative agent, collateral agent, and lender may declare all outstanding obligations immediately due and payable and exercise all of their rights and remedies as set forth in the Loan Agreement and under applicable law. As of December 31, 2020, the Company was in compliance with all covenants under the Loan Agreement.

The Company has the following minimum aggregate future loan payments under the Loan Agreement at December 31, 2020 (in thousands):

	<b>Minimum Loan Payments</b>
2021	\$ 2,333
2022	4,000
2023	3,667
Total future principal payments	10,000
Less: unamortized discount	(255)
Total notes payable	<u>\$ 9,745</u>

During the year ended December 31, 2020, the Company recognized \$0.6 million of interest expense related the Loan Agreement, which is reflected in other expense on the consolidated statements of operations and comprehensive loss.

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

**7. Warrant Liability**

In May 2016, the Company issued to a consultant a warrant to purchase 25,000 Series A preferred units at a price of \$1.00 per unit (the "Warrant"). Effective upon the Reorganization, the preferred unit warrant was converted into a warrant to purchase 25,000 shares of Series A convertible preferred stock at a price of \$1.00 per share.

The Warrant has a contractual life of ten years from the date of issuance and is exercisable at any time on or before the expiration date. The Company has classified the Warrant as a liability and remeasures the fair value of the liability at each reporting period using the Black-Scholes valuation method, with any changes in fair value being recorded as a component of other expense in the Company's consolidated statements of operations and comprehensive loss. The Company utilized the following weighted-average assumptions using the Black-Scholes option-pricing model to determine the estimated fair value of the warrants as of December 31, 2019 and 2020, respectively:

	December 31, 2019	December 31, 2020
Fair value of underlying preferred unit	\$ 1.07	—
Fair value of underlying preferred share	—	\$ 1.25
Risk-free interest rate	1.79%	0.42%
Expected volatility	67.63%	84.99%
Expected term (years)	6.4	5.4
Expected dividend yield	0.00%	0.00%

The warrant liability was \$17,000 and \$22,000 as of December 31, 2019 and 2020, respectively.

**8. Related Party Transactions***Atlas Venture*

Effective March 1, 2018, the Company entered into an employment agreement with Nesson Bermingham, an affiliate of Atlas Venture, a preferred unit holder, pursuant to which Dr. Bermingham provided part-time services to the Company as Executive Chairman of the board of directors. Under the employment agreement, Dr. Bermingham was entitled to receive an annualized base salary of \$250,000 per year and an annual bonus target of 40%, subject to board of directors approval and adjustment. In addition, pursuant to the terms of the employment agreement, Dr. Bermingham was granted 63,684 incentive units, which vested in 24 equal monthly installments, subject to certain acceleration provisions and his continued provision of services to the Company on the applicable vesting date. One seventh of such incentive units, to the extent then outstanding, were subject to accelerated vesting if certain predefined goals were deemed met by the board of directors, with any remaining unvested incentive units vesting over the following 24 months. The employment agreement could be terminated by either party at any time.

In June 2019, the board of directors modified Dr. Bermingham's agreement to reflect a change in position from Executive Chairman to non-executive Chairman of the board of directors with an annual fee of \$100,000 per year, paid monthly, for such services, and deemed the pre-defined goals for accelerated vesting of Dr. Bermingham's outstanding unvested incentive units had been met. As a result, one seventh of Dr. Bermingham's outstanding unvested incentive units were accelerated and the remaining incentive units began vesting equally over the following 12 months. In December 2019, Dr. Bermingham resigned from the board of directors of the Company, and pursuant to his employment agreement, an additional three months of unvested incentive units vested upon his cessation of service.

For the year ended December 31, 2019, the costs incurred under Dr. Bermingham's agreement totaled \$0.2 million and were recorded as general and administrative expense in the accompanying consolidated statements of operations and comprehensive loss. There were no costs incurred under this agreement for the

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**8. Related Party Transactions (Continued)**

*Atlas Venture (Continued)*

year ended December 31, 2020. As of December 31, 2019 and 2020, no amounts were owed under this agreement.

**9. Intellectual Property Licenses**

*Cross-License Agreement with AskGene*

In December 2020, Xilio Development entered into a cross-license agreement with AskGene Pharma, Inc. (“AskGene”) pursuant to which AskGene granted Xilio Development certain exclusive licenses for AskGene patent rights related to non-antigen binding IL-2 products in the field of oncology and certain co-exclusive licenses for AskGene patent rights related to antigen binding IL-2 products in all fields. In addition, subject to the terms of the agreement and during the time period specified, AskGene granted Xilio Development an option to certain exclusive licenses for AskGene patent rights related to non-antigen binding IL-15 products in the field of oncology and certain co-exclusive licenses for AskGene patent rights related to antigen binding IL-15 products in all fields. Under the agreement, AskGene retains rights to the AskGene patent rights in Singapore, Thailand, Malaysia, Vietnam, the People’s Republic of China, Taiwan, Macau, Hong Kong, Korea and India (the “AskGene territory”), and granted licenses to Xilio Development for the AskGene patent rights worldwide, excluding the AskGene territory (the “Xilio Development territory”).

Under the agreement, Xilio Development is required to pay AskGene an upfront payment of \$6.0 million, and for each licensed product, Xilio Development is obligated to pay AskGene up to \$13.0 million in the aggregate upon the achievement of specified regulatory milestones. If Xilio Development exercises its option for the IL-15 licenses during the option period, Xilio Development will be obligated to pay AskGene a \$4.0 million option exercise fee. In addition, subject to specified conditions, for any IL-2 licensed product, Xilio Development is obligated to pay AskGene percentage royalties in the mid-single digits on aggregate annual net sales of IL-2 licensed products in the Xilio Development territory during the applicable royalty term, and if Xilio Development exercises its option for AskGene’s IL-15 patent rights, then for any IL-15 licensed product, Xilio Development is obligated to pay AskGene percentage royalties in the low single digits on aggregate annual net sales of IL-15 licensed products in the Xilio Development territory during the applicable royalty term.

During the term of the agreement, AskGene has agreed not to exploit the following in the field of oncology in the Xilio Development territory: (i) any non-antigen binding IL-2 product, and (ii) if Xilio Development exercises its option for AskGene’s IL-15 patent rights, any non-antigen binding IL-15 product.

In addition, under the agreement, Xilio Development granted a non-exclusive, royalty-free, non-transferable, worldwide license to AskGene for specified Xilio Development patent rights related to non-antigen binding IL-2 products in the field of immunology and for specified Xilio Development patent rights related to antigen binding IL-2 products in all fields. In addition, subject to the terms of the agreement and during the time period specified, Xilio Development granted AskGene an option to obtain an exclusive, royalty-bearing, non-transferable, worldwide license for specified Xilio Development patent rights related to non-antigen binding IL-2 products in the field of immunology and an option to obtain a co-exclusive, royalty-bearing, non-transferable, worldwide license for specified Xilio Development patent rights related to antigen binding IL-2 products in all fields. If AskGene exercises its option, the parties would negotiate and enter into a license agreement, and AskGene would be obligated to pay Xilio Development up to \$17.0 million in aggregate upfront and milestone payments for each licensed product. In addition, subject to specified conditions, for any IL-2 licensed product, AskGene is obligated to pay Xilio Development percentage royalties in the low single digits on aggregate annual net sales of IL-2 licensed products in the AskGene territory during the applicable royalty term.

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

**9. Intellectual Property Licenses (Continued)*****Cross-License Agreement with AskGene (Continued)***

The Company accounted for the agreement as an asset acquisition, as the Company only acquired licenses to specified patents from AskGene (an input) and no additional processes or outputs as a part of the agreement. The \$6.0 million upfront payment was recorded as research and development expense in the consolidated statement of operations and comprehensive loss during the year ended December 31, 2020, as the acquired licenses were determined to have no alternative future use and the technological feasibility of the intellectual property has not yet been reached. The upfront payment was paid in installments between December 2020 and February 2021, with \$1.0 million paid as of December 31, 2020. The remaining \$5.0 million was paid during the three months ended March 31, 2021 and was recorded within accrued expenses in the accompanying consolidated balance sheets as of December 31, 2020. Any additional payments that are contingent upon achievement of development and regulatory milestones or upon sales of licensed products will not be recognized until it becomes probable that the Company will be required to make such payments.

***Amended and Restated Exclusive License Agreement with City of Hope***

In August 2016, the Company entered into an amended and restated exclusive license agreement with City of Hope pursuant to which City of Hope granted the Company an exclusive worldwide license to specified patent rights related to the Company's anti-CTLA-4 monoclonal antibody program.

Under the agreement, the Company issued 24,019 common units to City of Hope. For the first three licensed products or licensed services to achieve specified development and regulatory milestones, the Company is obligated to pay City of Hope up to \$10.3 million in the aggregate per licensed product or licensed service. In addition, subject to specified conditions, the Company is obligated to pay City of Hope tiered royalties in the low single digits on aggregate annual net sales of licensed products or licensed services on a country-by-country basis until the expiration of the last-to-expire patent or patent application licensed from City of Hope covering the applicable licensed product or licensed service in such country. The Company is also obligated to pay City of Hope a portion of any consideration the Company receives for the grant of sublicenses under the agreement ranging from a low double digit to mid-twenties percentage of such consideration to low double digit percentage of such consideration, subject to specified conditions under that agreement at the time that the Company grants any such sublicense. In addition, the Company is obligated to pay \$0.5 million to City of Hope in connection with the consummation of specified transactions, including an initial public offering.

In each of the years ended December 31, 2019 and 2020, the Company incurred \$10,000 under this agreement, which was recognized as research and development expense in the consolidated statements of operations and comprehensive loss. The Company has accounted for the \$0.5 million contingent payment, which is due upon the consummation of specified transactions, including an initial public offering, as a derivative liability. The derivative liability was initially recognized at fair value with any changes in such fair value recorded to other income (expense), net in the accompanying consolidated statement of operations and comprehensive loss. The derivative liability is included in other liabilities, long term on the consolidated balance sheet as of December 31, 2020. Any additional payments that are contingent upon achievement of development and regulatory milestones or upon sales of licensed products will not be recognized until it becomes probable that the Company will be required to make such payments.

***CTLA-4 Monoclonal Antibody License Agreement with WuXi Biologics***

In September 2016, the Company entered into a license agreement with WuXi Biologics (Hong Kong) Limited ("WuXi Biologics"), as amended in December 2017, pursuant to which WuXi Biologics granted the Company an exclusive worldwide license to specified monoclonal antibodies and patent rights and know-how controlled by WuXi Biologics, including certain patent rights related to the Company's anti-CTLA-4 monoclonal antibody program.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**9. Intellectual Property Licenses (Continued)**

***CTLA-4 Monoclonal Antibody License Agreement with WuXi Biologics (Continued)***

For each product that exploits the rights licensed under the agreement, the Company is obligated to pay WuXi Biologics up to approximately \$25.8 million in the aggregate for specified development and regulatory milestones. In addition, subject to specified conditions, the Company is obligated to pay WuXi Biologics tiered royalties in the low to mid-single digits on aggregate annual worldwide net sales of licensed products during the applicable royalty term.

The Company did not incur any costs under the agreement during the year ended December 31, 2019. The Company incurred \$1.0 million in costs related to the payment of specified development milestones under the agreement during the year ended December 31, 2020. Any additional payments that are contingent upon the achievement of development and regulatory milestones or sales of licensed products will not be recognized until it becomes probable that the Company will be required to make such payments.

**10. Commitments and Contingencies**

***Purchase Commitments***

The Company has contractual arrangements with research and development organizations and suppliers. However, these contracts are generally cancelable on 30 days' notice and the obligations under these contracts are primarily based on services performed.

***Leases***

The Company has an operating lease for its headquarters and a finance lease for certain lab equipment. In August 2019, the Company entered into a facility lease agreement with a landlord providing funding for tenant improvements and occupancy of approximately 27,830 square feet of office and laboratory space (the "premises") at 828 Winter Street, Waltham, Massachusetts. The initial term of the lease expires in March 2030, unless terminated earlier in accordance with the terms of the lease. The Company has a right to a five-year option to extend at then-market rates. The Company took possession of the premises in August 2019 and began tenant improvement, toward which the landlord agreed to fund a maximum of \$4.9 million of such improvements. The Company included the expected landlord reimbursement amount of \$4.9 million as a reduction to the amount of future minimum lease payments used to calculate the lease liability at lease commencement. The Company received reimbursement of \$2.0 million and \$2.9 million for tenant improvements for the years ended December 31, 2019 and 2020, respectively. Any reimbursement payments either received from the landlord, or due to be received from the landlord, have been recorded as an increase to the operating lease liability. The Company is obligated to pay its portion of real estate taxes and costs related to the premises, including costs of operations, maintenance, repair, replacement, and management of the new leased premises, which it began paying simultaneous with the rent commencement date in March 2020. In connection with the lease agreement, the Company agreed to provide the landlord with an initial cash deposit, subject to the Company converting such amount to a letter of credit within 6 months of origination of the lease. Accordingly, as of December 31, 2019, the Company had paid to the landlord a cash deposit of approximately \$1.6 million, which it recorded in other non-current assets on the accompanying consolidated balance sheet. In 2020, the landlord refunded the Company in the amount of \$1.6 million. As of December 31, 2020, the Company has a letter of credit for the benefit of its landlord in the amount of \$1.6 million, collateralized by a money market fund.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**10. Commitments and Contingencies (Continued)***Leases (Continued)*

The components of lease expense were as follows (in thousands):

	Year Ended December 31, 2019	Year Ended December 31, 2020
Operating lease cost	\$ 407	\$ 1,225
Variable lease cost	—	—
	<u>\$ 407</u>	<u>\$ 1,225</u>
Finance lease cost:		
Amortization of right of use asset	\$ —	\$ 35
Interest on lease liability	—	8

Supplemental balance sheet information related to the leases was as follows (in thousands, except for remaining lease term and discount rates):

	Year Ended December 31, 2019	Year Ended December 31, 2020
Operating Lease:		
Operating lease right-of-use asset	\$ 6,568	\$ 6,309
Operating lease liability, current portion	\$ —	\$ 564
Operating lease liability, long-term portion	9,021	10,908
Finance Lease:		
Property and equipment, gross	\$ —	\$ 423
Property and equipment, accumulated depreciation	—	(35)
Other liabilities, current	—	82
Other liabilities	—	187
Weighted-average remaining lease term (in years):		
Operating lease	10.17	9.17
Finance lease	—	3.70
Weighted-average discount rate:		
Operating lease	8.0%	8.0%
Finance lease	—	6.9%

Supplemental cash flow information related to leases was as follows (in thousands):

	Year Ended December 31, 2019	Year Ended December 31, 2020
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	—	\$ 1,343
Financing cash flows from finance leases	—	99



**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**10. Commitments and Contingencies (Continued)**

*Leases (Continued)*

Future minimum lease payments under non-cancellable leases as of December 31, 2020 are as follows (in thousands):

	<u>Operating Lease</u>	<u>Finance Lease</u>
2021	\$ 1,457	\$ 85
2022	1,634	85
2023	1,683	85
2024	1,733	49
2025	1,785	—
Thereafter	8,199	—
Total future minimum lease payments	<u>\$ 16,491</u>	<u>\$ 304</u>
Present value adjustment	<u>(5,019)</u>	<u>(36)</u>
Present value of lease liabilities	<u>\$ 11,472</u>	<u>\$ 268</u>

*Legal Proceedings*

From time to time, the Company may be party to litigation arising in the ordinary course of business. The Company was not subject to any material legal proceedings during the years ended December 31, 2019 and 2020.

*Guarantees and Indemnifications*

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend an indemnified party for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third-party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. The Company has never incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. The Company has also entered into indemnification agreements with its directors that may require the Company to indemnify its directors against liabilities that may arise by reason of their status or service as directors to the fullest extent permitted by Delaware corporate law. The Company currently has directors' and officers' insurance.

**11. Member Units**

Prior to the Reorganization, all interests of members in distributions and other amounts were represented by their units of membership in the Company as specified in its LLC Agreement. There were two classes of units, capital units and incentive units. Capital units were comprised of common units and preferred units, which represented a capital interest in the Company, while incentive units represented profits interests within the meaning of IRS Revenue Procedures 93-27 and 2001-43.

**Capital Units**

As of December 31, 2019, the total authorized capital units of the Company were 192,456,195, of which 98,172,319 were common units and 94,283,876 were preferred units, of which 7,525,000 were designated Series A preferred units, 19,565,216 were designated Series A-1 preferred units and 67,193,660 were designated Series B preferred units.

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

**11. Member Units (Continued)**

The various classes of capital units are described below.

***Common Units***

As of December 31, 2018, the Company had 409,303 common units outstanding. There were no additional common units issued during the years ended December 31, 2019 or 2020.

Holders of common units were entitled to one vote per unit and to receive dividends, when and if declared by the board of directors. No common unit dividends were declared. The voting, dividend and liquidation rights of the holders of the common units were subject to, and qualified by, the rights of the holders of the Series A preferred units, the Series A-1 preferred units, and the Series B preferred units.

***Preferred Units***

Prior to 2019, the Company sold 7,500,000 Series A preferred units and 10,869,564 Series A-1 preferred units.

Included in the terms of the January 2018 Series A-1 preferred unit purchase agreement were certain tranche rights granted to investors of the Series A-1 preferred units based on the achievement of certain milestones. Although the final milestone was not achieved, in accordance with the Series A-1 preferred unit purchase agreement, the board of directors and the Series A-1 investors agreed to waive the milestone requirement and proceeded with the closing of the final Series A-1 closing in May 2019, in which the Company issued 8,695,652 Series A-1 preferred units at \$1.15 per unit for proceeds of \$10.0 million, net of issuance costs. The Company concluded that the tranche rights associated with the Series A-1 preferred unit agreement met the definition of a freestanding financial instrument, as the tranche rights were legally detachable and separately exercisable from the Series A-1 preferred units. Therefore, the Company allocated the proceeds between the tranche rights and the Series A-1 preferred units. As the Series A-1 preferred units were contingently redeemable upon an event that is not completely within the control of the Company, the tranche rights were classified as an asset or liability and were initially recorded at fair value. The tranche rights were measured at fair value at each reporting period. Upon the closing of the final Series A-1 tranche in May 2019, any remaining fair value of the tranche right was reclassified from being carried as a liability to being recorded as Series A-1 preferred units. The carrying value of the Series A-1 preferred units at December 31, 2019 was \$20.7 million.

In December 2019, the Company entered into a Series B Preferred Unit Purchase Agreement, as amended in February 2020 (the "Series B Agreement"), to issue and sell 79,446,640 Series B preferred units at a purchase price of \$1.265 per unit. Pursuant to the Series B Agreement, the units were sold at multiple closings including an initial closing, additional closings and a milestone closing. In December 2019, the Company issued 31,818,174 Series B preferred units at \$1.265 per unit for proceeds of \$40.0 million, net of issuance costs at the initial closing. In February 2020 as part of the additional closing, the Company issued an additional 7,905,138 Series B preferred units at \$1.265 per unit for proceeds of \$10.0 million net of issuance costs under the same terms as the units issued in the initial closing. In January 2021, the Company sold 39,723,312 shares of Series B convertible preferred stock for proceeds of \$50.2 million, net of issuance costs (Note 18). The Company concluded that the tranche rights associated with the Series B preferred units do not represent a freestanding financial instrument as the tranche right is not legally detachable from the Series B preferred units.

The Company has evaluated the preferred units and determined that they should be considered an "equity host" and not a "debt host." The evaluation was necessary to determine if any embedded features required bifurcation and separate accounting as a derivative financial instrument. The Company's analysis was based on a consideration of the economic characteristics and risks and more specifically, evaluated all the stated and implied substantive terms and features including (i) whether the preferred unit included redemption features, (ii) how and when any redemption features could have been exercised, (iii) whether the preferred units were entitled to dividends, (iv) the voting rights of the preferred unit and (v) the existence and nature of any conversion rights. As a result of its evaluation that the preferred unit is an "equity host," the various embedded conversion options are not considered a separate, embedded derivative.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**11. Member Units (Continued)****Preferred Units (Continued)**

As of December 31, 2019, the preferred units consisted of the following (in thousands, except unit amounts):

	Preferred Units Authorized	Preferred Units Issued and Outstanding	Carrying Value	Liquidation Preference	Common Units Issuable Upon Conversion
Series A preferred units	7,525,000	7,500,000	\$ 7,309	\$ 7,500	789,473
Series A-1 preferred units	19,565,216	19,565,216	20,740	22,500	2,059,496
Series B preferred units	67,193,660	31,818,174	39,984	40,250	3,349,272
	<u>94,283,876</u>	<u>58,883,390</u>	<u>\$ 68,033</u>	<u>\$ 70,250</u>	<u>6,198,241</u>

*Rights and Preferences of Preferred Units*

The Series A preferred units, the Series A-1 preferred units and the Series B preferred units (collectively the "Preferred Units") had the following rights and preferences:

*Liquidation*

In the event of any liquidation, dissolution or winding up of affairs of the Company (including a change of control), distributions would have first been made to holders of the Series B preferred units until, on a Series B preferred unit by Series B preferred unit basis, each Series B preferred unit had been distributed its original issuance price (\$1.265) plus any declared but unpaid dividends. After distribution to the Series B preferred unit holders, the holders of Series A and Series A-1 preferred units would receive a distribution until, on a Series A and Series A-1 preferred unit by Series A and Series A-1 preferred unit basis, each Series A and Series A-1 preferred unit had been distributed an amount equal to the Series A or Series A-1 preferred unit original issuance price, respectively, plus any declared but unpaid dividends. The Series A and Series A-1 preferred unit issuance price was \$1.00 and \$1.15 per unit, respectively. After distribution to the Series A and Series A-1 holders, the holders of preferred units, common units and incentive units would receive a distribution until, on a preferred unit by preferred unit basis, each preferred unit has been distributed an amount equal to two and one-half times the sum of its respective original issuance price and declared but unpaid dividends. After such distribution, the holders of common units and incentive units would receive a distribution until, on a unit by unit basis, each common unit and incentive unit had been distributed a catch-up amount such that the aggregate distributions made to the common units and incentive units are the same as the average aggregate distributions made to the preferred units. Any remaining amounts would be distributed to the holders of Preferred Units, common units and incentive units pro rata in proportion to the number of units held by each (on an as-converted basis).

Incentive unit holders would have participated in distributions as described above only after the distribution met the strike price with respect to such unit. The strike price is an amount per incentive unit determined by the board of directors based on the amount of distributions that the holders of a common unit would have been entitled to receive in a hypothetical liquidation of the Company on the date of issuance of the incentive unit in which the Company sold its assets at fair market value, satisfied its liabilities and distributed the net proceeds to the holders of units in liquidation of the Company. The board of directors had the discretion to determine the extent to which an incentive unit would have been excluded from participating in distributions.

*Conversion into Common Units*

None of the Preferred Units were initially convertible into common units. However, once an investor had fulfilled its obligations to purchase all of the Series B preferred units it is required to purchase pursuant to the Series B Agreement, including at the Series B milestone closing, then all preferred units, including any Series A

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**11. Member Units (Continued)**

***Preferred Units (Continued)***

or Series A-1 preferred units owned by such investor, would be convertible, at the option of the investor, into common units at a one for 9.5 ratio, subject to adjustment for certain dilutive issuances of additional units. All preferred units would have automatically converted into common units upon an initial public offering pursuant to which the public offering price is equal to one and a half (1.5) times the Series B preferred unit original issuance price, as adjusted, with gross proceeds to the Company of at least \$50 million.

If an investor failed to purchase the Series B preferred units it was required to purchase pursuant to the Series B Agreement (each, a “defaulting purchaser”), then each preferred unit held by such defaulting purchaser (and by any of such defaulting purchaser’s affiliates or any predecessor, transferor or assignor, successor, transferee or assign of such defaulting purchaser or such defaulting purchaser’s affiliates) would have automatically converted as follows: each 10 Series B preferred units would have converted into 0.1053 common units, each Series A preferred unit would have converted into one Series A-2(A) preferred unit and each Series A-1 preferred unit would have converted into one Series A-2(A-1) preferred unit.

Prior to the Reorganization, no such default had taken place and accordingly, the Company had not authorized, created, or issued any Series A-2 preferred units.

*Voting*

Holders of Preferred Units voted together with the holders of common units as a single class. Any action to be taken by the members required the approval of members holding a majority of the outstanding Preferred Units and common units, voting together as a single class on an as-converted basis, unless a different threshold was specifically required by the Delaware Limited Liability Act, applicable law, or the LLC Agreement.

*Dividends*

If any dividends were declared by the board of directors on the Preferred Units, such dividends were to be at an annual rate of \$0.060 per Series A preferred unit, \$0.069 per Series A-1 preferred unit and \$0.0759 per Series B preferred unit, subject in each case to appropriate adjustment in the event of any dividend, split, combination or other similar recapitalization with respect to the applicable preferred units, and were to be non-cumulative. Since inception, the Company’s board of directors has not declared any dividends.

**12. Reorganization**

In connection with the Reorganization:

- Holders of Xilio Therapeutics LLC outstanding Series A preferred units received one share of Xilio Therapeutics, Inc. Series A convertible preferred stock for each Series A preferred unit held immediately prior to the Reorganization, with an aggregate of 7,500,000 shares of Xilio Therapeutics, Inc. Series A convertible preferred stock issued in the Reorganization;
- Holders of Xilio Therapeutics LLC outstanding Series A-1 preferred units received one share of Xilio Therapeutics, Inc. Series A-1 convertible preferred stock for each Series A-1 preferred unit held immediately prior to the Reorganization, with an aggregate of 19,565,216 shares of Xilio Therapeutics, Inc. Series A-1 convertible preferred stock issued in the Reorganization;
- Holders of Xilio Therapeutics LLC outstanding Series B preferred units received one share of Xilio Therapeutics, Inc. Series B convertible preferred stock for each Series B preferred unit held immediately prior to the Reorganization, with an aggregate of 39,723,312 shares of Xilio Therapeutics, Inc. Series B convertible preferred stock issued in the Reorganization;

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

## 12. Reorganization (Continued)

- Holders of Xilio Therapeutics LLC outstanding common units received one share of Xilio Therapeutics, Inc. common stock for each outstanding common unit held immediately prior to the Reorganization, with an aggregate of 409,303 shares of common stock issued in the Reorganization;
- Holders of Xilio Therapeutics LLC outstanding incentive units received shares of Xilio Therapeutics, Inc. restricted common stock in an amount equal in value of such incentive units as determined by the applicable provisions of the Xilio Therapeutics LLC Agreement in effect immediately prior to the Reorganization, with an aggregate of 552,546 shares of common stock and restricted stock issued in the Reorganization. The restricted common stock awards in Xilio Therapeutics, Inc. were issued with the same vesting terms as the incentive units held immediately prior to the Reorganization; and
- The outstanding warrant to purchase 25,000 Series A preferred units of Xilio Therapeutics LLC at \$1.00 per unit was converted to a warrant to purchase 25,000 shares of Xilio Therapeutics, Inc. Series A convertible preferred stock at the same purchase price.

In evaluating the Reorganization, the Company considered that (i) with the exception of holders of incentive units, there were no changes in ownership interest held by each stockholder as a result of the Reorganization, (ii) the changes in the overall ownership interest of the Company resulting from the changes in ownership interest related to the holders of incentive units as a result of the Reorganization is not significant and (iii) the Reorganization occurred between a parent and wholly owned subsidiary, where the parent, Xilio Therapeutics LLC, had no substantive operations. Based on this evaluation, the Company determined that the Reorganization lacked economic substance and should be accounted for in a manner consistent with a common control transaction. Similarly, there was no significant change in fair value between the stockholders, individually or as a class, and the Company determined that the exchange of shares occurring in the Reorganization should be accounted for as a modification of equity securities.

## 13. Convertible Preferred Stock and Common Stock

As of December 31, 2020, the Company had authorized 126,000,000 shares of common stock and 133,602,056 shares of convertible preferred stock, which consisted of the following: 7,525,000 shares of Series A convertible preferred stock, 19,565,216 shares of Series A-1 convertible preferred stock, 7,500,000 shares of Series A-2(A) convertible preferred stock, 19,565,216 shares of Series A-2(A-1) convertible preferred stock, and 79,446,624 shares of Series B convertible preferred stock (collectively, the "Convertible Preferred Stock").

*Convertible Preferred Stock*

As of December 31, 2020, Convertible Preferred Stock consisted of the following (in thousands, except share amounts):

	Year Ended December 31, 2020				Common Shares Issuable Upon Conversion
	Preferred Shares Authorized	Preferred Shares Issued and Outstanding	Carrying Value	Liquidation Preference	
Series A convertible preferred stock	7,525,000	7,500,000	\$ 7,309	\$ 7,500	789,473
Series A-1 convertible preferred stock	19,565,216	19,565,216	20,740	22,500	2,059,496
Series A-2(A) convertible preferred stock	7,500,000	—	—	—	—
Series A-2(A-1) convertible preferred stock	19,565,216	—	—	—	—
Series B convertible preferred stock	79,446,624	39,723,312	49,953	50,250	4,181,390
	<u>133,602,056</u>	<u>66,788,528</u>	<u>\$ 78,002</u>	<u>\$ 80,250</u>	<u>7,030,359</u>

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**13. Convertible Preferred Stock and Common Stock (Continued)**

*Convertible Preferred Stock (Continued)*

The terms of the Convertible Preferred Stock as of December 31, 2020 are as follows:

*Liquidation*

In the event of any liquidation, dissolution or winding up of affairs of the Company (including a change of control), distributions would have first been made to holders of the Series B convertible preferred stock until, on a share by share basis, each share of Series B convertible preferred stock has been distributed its original issuance price (\$1.265) plus any declared but unpaid dividends. After distribution to the Series B convertible preferred stock holders, the holders of Series A, Series A-1, Series A-2(A) and Series A-2(A-1) convertible preferred stock would receive a distribution until, on a share by share basis, each share of Series A, Series A-1, Series A-2(A) and Series A-2(A-1) convertible preferred stock has been distributed an amount equal to the Series A, Series A-1, Series A-2(A) and Series A-2(A-1) convertible preferred stock original issuance price plus any declared but unpaid dividends. The Series A, Series A-1, Series A-2(A) and Series A-2(A-1) convertible preferred stock issuance price is \$1.00, \$1.15, \$1.00, and \$1.15 per stock, respectively. After distribution to the Series A, Series A-1, Series A-2(A) and Series A-2(A-1) holders, the holders of all securities as if all such securities had been converted to common stock, receive a distribution until, on a share by share basis, each share of Convertible Preferred Stock holder has been distributed an amount equal to two and one-half times the sum of its respective original issuance price and declared but unpaid dividends after which the holders of common stock receive a distribution until, on a common stock by common stock basis, each share of common stock has been distributed a catch-up amount such that the aggregate distributions made to the common stock are the same as the average aggregate distributions made to the Convertible Preferred Stock. Any remaining amounts are distributed to the holders of the common stock and Convertible Preferred Stock in proportion to the number of shares of stock held by each (on an as-converted basis).

*Conversion*

Shares of Convertible Preferred Stock may be converted by the holder at any time into a number of shares of common stock equal to such number of shares as determined by dividing the original issue price by the conversion price in effect at the time. The conversion price of the Series A convertible preferred stock is equal to \$9.50, the conversion price of the Series A-1 convertible preferred stock is equal to \$10.93 and the conversion price of the Series B convertible preferred stock is equal to \$12.02, in each case as of December 31, 2020. The conversion price is subject to adjustments in the event of any stock dividend, stock split, combination or other similar recapitalization and other adjustments as set forth in the Company's certificate of incorporation. Upon the closing of a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, in which the aggregate gross proceeds to the Company are at least \$50 million, all outstanding Convertible Preferred Stock will be automatically converted into a number of shares of common stock at the then applicable conversion rate.

If a defaulting purchaser fails to purchase the Series B convertible preferred stock it is required to purchase pursuant to the Series B Agreement, then each share of Convertible Preferred Stock held by such defaulting purchaser (and by any of such defaulting purchaser's affiliates or any predecessor, transferor or assignor, successor, transferee or assign of such defaulting purchaser or such defaulting purchaser's affiliates) will automatically convert as follows: each 10 shares of Series B convertible preferred stock will convert into 0.1053 shares of common stock, each share of Series A convertible preferred stock will convert into one share of Series A-2(A) convertible preferred stock and each share of Series A-1 convertible preferred stock will convert into one share of Series A-2(A-1) convertible preferred stock.

*Voting*

Holders of Convertible Preferred Stock vote together with the holders of common stock as a single class. Any action to be taken by the stockholders requires the approval of stockholders holding a majority of the

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**13. Convertible Preferred Stock and Common Stock (Continued)**

***Convertible Preferred Stock (Continued)***

outstanding shares of Convertible Preferred Stock and common stock, voting together as a single class on an as-converted basis, unless a different threshold is specifically required by law or by the Company's certificate of incorporation.

*Dividends*

If any dividends are declared by the board of directors on the Convertible Preferred Stock, such dividends shall be at an annual rate of \$0.060 per share of Series A convertible preferred stock, \$0.069 per share of Series A-1 convertible preferred stock and \$0.0759 per share of Series B convertible preferred stock, subject in each case to appropriate adjustment in the event of any dividend, split, combination or other similar recapitalization with respect to the applicable series of Convertible Preferred Stock, and shall be non-cumulative. Holders of Series A-2(A) and A-2(A-1) convertible preferred stock are not entitled to receive any dividends. Since inception, the Company has not declared any dividends.

***Common Stock***

The voting, dividend, and liquidation rights of the holders of common stock are subject to and qualified by the rights, powers, and preferences of the holders of Convertible Preferred Stock.

The common stock has the following characteristics:

*Voting*

The holders of shares of common stock are entitled to one vote for each share of common stock held at any meeting of stockholders and at the time of any written action in lieu of a meeting of stockholders.

*Dividends*

The holders of shares of common stock are entitled to receive dividends, if and when declared by the Company's board of directors. Cash dividends may not be declared or paid to holders of shares of common stock until all unpaid dividends on Convertible Preferred Stock have been paid in accordance with their terms. No dividends have been declared by the Company's board of directors or paid by the Company to the holders of common stock since the issuance of the common stock.

*Shares Reserved for Future Issuance*

As of December 31, 2020, the Company had reserved shares of common stock for the conversion of outstanding Convertible Preferred Stock and for future issuance under the 2020 Stock Incentive Plan (as amended, the "2020 Plan") as follows:

Shares of common stock reserved for conversion of convertible preferred stock outstanding	7,030,359
Shares of common stock reserved for conversion of convertible preferred shares issuable upon exercise of a warrant	2,631
Shares of common stock reserved for exercise of outstanding stock options under the 2020 Plan	810,358
Shares of common stock reserved for future awards under the 2020 Plan	151,769
<b>Total common stock reserved</b>	<b><u>7,995,117</u></b>

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**14. Equity-Based Compensation**

***Incentive Units***

Prior to the Reorganization, the Company periodically granted incentive units to employees, directors and non-employees. The incentive units represented a separate substantive class of equity with defined rights within the LLC Agreement then in effect. The incentive units represented profits interests in the Company, which was an interest in the increase in the value of the Company over the strike price, or threshold dollar amount, determined at the time of grant. The holder, therefore, had the right to participate in distributions of profits only in excess of the threshold dollar amount. The threshold dollar amount is based on the valuation of the Company's common units on or around the grant date. The Company determined that incentive units issued to employees, directors and non-employees were analogous to share-based payments and, as such, the Company measured and recognized the related compensation expense in a manner consistent with its accounting policy for its other equity-based awards. Pursuant to the LLC Agreement, the board of directors established a threshold dollar amount with respect to each incentive unit grant equal to the value of each common unit, determined by the amount of distributions that the holder of such a common unit would be entitled to receive in a hypothetical liquidation of the Company on the date of issuance of such incentive unit. Incentive unit grants generally vested over a four-year period. Certain grants vested upon the achievement of specific performance based milestones. If there was a liquidation or sale of the Company or one of the Company's subsidiaries, a fair market value analysis would have been performed to determine the value of the common unit. If the value of the common unit is determined to have been greater than the threshold set upon the date of grant, then the holder of the common incentive unit would have been entitled to receive proceeds from such liquidation or sale. Unvested incentive units were automatically cancelled and forfeited without any consideration upon termination of the participant's continuous service to the Company.

At December 31, 2018, 3,570,000 incentive units were authorized to be granted. In June 2019, the Company amended and restated its LLC Agreement and increased the total number of incentive units authorized for issuance to 5,830,000 incentive units. In December 2019 the Company amended its LLC Agreement to increase the authorized number of incentive units available for issuance to 14,669,430. As of December 31, 2019, the Company had issued 585,777 incentive units, of which 571,712 units were outstanding.

A summary of the Company's incentive unit activity is as follows:

	Number of units	Weighted-average threshold price per unit	Weighted-average fair value per unit
Outstanding at December 31, 2019	571,712	\$ 0.95	\$ 1.05
Granted	512,095	1.43	3.61
Forfeited	(2,949)	0.86	0.57
Exchanged for restricted common stock pursuant to the Reorganization	(1,080,858)	1.14	2.28
Outstanding at December 31, 2020	<u>—</u>		

The weighted average grant date fair value for incentive units granted in 2019 and 2020 was \$1.43 and \$3.61 per unit, respectively.

A summary of vested incentive units is as follows:

	Number of units
Vested at December 31, 2019	187,773
Vested through the date of the Reorganization	118,099
Vested as of the Reorganization	<u>305,872</u>



**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**14. Equity-Based Compensation (Continued)**

***Incentive Units (Continued)***

The Company recorded equity-based compensation expense for incentive units granted to employees, directors and non-employees of approximately \$112,000 and \$247,000 for the years ended December 31, 2019 and 2020, respectively.

The fair value of the incentive units issued was determined using a Black-Scholes option pricing model with the following assumptions (weighted-average):

	Year Ended December 31, 2019	Year Ended December 31, 2020
Grant date price per common unit	\$ 2.00	\$ 4.47
Threshold price per incentive unit	\$ 1.05	\$ 1.43
Risk-free interest rate	1.95%	0.74%
Expected dividend yield	0.00%	0.00%
Expected term (years)	6.0	6.0
Expected volatility	68.35%	69.30%

***Reorganization***

Pursuant to the Reorganization, outstanding vested and unvested incentive units of Xilio Therapeutics LLC were converted into restricted stock awards in Xilio Therapeutics, Inc. based upon a determined conversion ratio. The restricted common stock awards in Xilio Therapeutics, Inc. were issued with the same vesting terms as the vested and unvested incentive units held immediately prior to the Reorganization. An aggregate of 552,546 shares of restricted common stock were issued to holders of incentive units in connection with the Reorganization.

The following table summarizes the restricted common stock issued as part of the Reorganization:

	Number of Shares	Weighted Average Fair Value per Share at Issuance
Restricted common stock issued as part of the Reorganization	552,546	\$ 5.51
Vested as of and after the Reorganization	(251,732)	5.51
Forfeited	(16,845)	5.51
Restricted common stock as of December 31, 2020	<u>283,969</u>	5.51

The Company accounted for the exchange of incentive units in Xilio Therapeutics LLC for restricted common stock of Xilio Therapeutics, Inc. as a modification in accordance with the requirements of ASC Topic 718. Accordingly, the Company determined the fair value of the replacement awards was less than the fair value of the incentive units exchanged in connection with the Reorganization and therefore no incremental compensation expense will be recognized related to the modification. As the vesting and service period of the replacement awards did not change from the originally issued incentive awards, the Company will continue to recognize the grant date fair value of the incentive units as compensation expense over the remaining vesting period.

The Company recorded equity-based compensation expense for restricted stock granted to employees, directors and non-employees of \$0.3 million for the year ended December 31, 2020. There were no comparable amounts recognized for the year ended December 31, 2019. As of December 31, 2020, the Company had unrecognized equity-based compensation expense of \$1.6 million related to restricted common stock issued to employees, which is expected to be recognized over 2.62 years.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**14. Equity-Based Compensation (Continued)**

***Equity Incentive Plans***

In July 2020, the Company's stockholders approved the 2020 Plan. Under the 2020 Plan, the Company may issue up to 991,021 shares of common stock to the Company's employees, officers, directors, consultants, and advisors in the form of options, restricted stock awards or other stock-based awards. The 2020 Plan is administered by the board of directors, which has the power to determine the terms of the awards agreements, including the vesting requirements, provided that generally the exercise price per share of stock options granted may not be less than 100% of the fair market value of a share of the Company's common stock on the date of grant, and the term of stock options granted may not exceed ten years. Vesting of stock options and restricted stock is subject to the recipient's continued employment or service. The Company has the right to repurchase any unvested shares of restricted stock held by a recipient during the vesting period if the relationship between the recipient and the Company has terminated. For any awards under the 2020 Plan that expire or are terminated, surrendered, or canceled without having been fully exercised, if forfeited in whole or in part (including as the result of shares of common stock subject to such award being repurchased by the Company), the unused common stock subject to such award shall again be available for the grant of awards under the 2020 Plan. Shares of common stock that are tendered to the Company by a participant to exercise an award are added to the number of shares of common stock available for future awards. Shares of common stock may be withheld to satisfy applicable federal, state or local employment tax withholding obligations related to equity awards. Upon stock option exercise, the Company issues new shares and delivers them to the participant.

As of December 31, 2020, the Company had issued service-based and performance-based stock options under the 2020 Plan. Stock options issued comprise awards granted to employees, non-employees, and directors.

***Stock Options***

A summary of stock option activity under the 2020 Plan is as follows:

	Number of Stock Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (In years)	Aggregate Intrinsic Value (In thousands)
Outstanding as of December 31, 2019	—	—	—	\$ —
Granted	857,828	\$ 5.51		
Exercised	(28,894)	5.51		
Cancelled/forfeited	(18,576)	5.51		
Outstanding as of December 31, 2020	<u>810,358</u>	5.51	9.52	\$ —
Exercisable as of December 31, 2020	<u>141,301</u>	5.51	9.32	\$ —
Vested and expected to vest as of December 31, 2020	<u>810,358</u>	5.51	9.52	\$ —

The weighted average grant-date fair value per share of stock options granted to employees and directors for stock option awards with service-based vesting conditions, directors with performance-based vesting and to non-employees with service-based vesting conditions during the year ended December 31, 2020 was \$3.60 per share. The performance conditions underlying the performance-based awards are not probable of achievement as of December 31, 2020. Therefore, no compensation expense has been recorded for these awards. At December 31, 2020, total unrecognized compensation expense related to performance-based awards was \$0.2 million. The aggregate intrinsic value of stock options is calculated as the difference between the exercise

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**14. Equity-Based Compensation (Continued)**

**Stock Options (Continued)**

price of the stock options and the fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the Company's common stock.

The following assumptions were used to determine the fair value of the stock options granted to employees and directors during the year ended December 31, 2020:

Risk-free interest rate	0.16 – 0.36%
Expected dividend yield	0%
Expected term (in years)	2.25 – 6.08
Expected volatility	78.84 – 96.73%

The Company recorded equity-based compensation expense for stock options granted to employees, directors and non-employees of \$0.7 million for the year ended December 31, 2020, with no comparable amount in the year ended December 31, 2019.

As of December 31, 2020, the Company had unrecognized equity-based compensation expense of \$2.1 million related to stock options issued to employees and directors, excluding performance-based awards for which vesting is not considered probable, which is expected to be recognized over a weighted average period of 3.02 years.

**Total Equity-Based Compensation Expense**

During the years ended December 31, 2019 and 2020, the Company recorded compensation expense related to incentive units, stock options and restricted common stock for employees and non-employees, which was allocated as follows in the consolidated statements of operations and comprehensive loss (in thousands):

	Year Ended December 31,	
	2019	2020
Research and development expense	\$ 42	\$ 332
General and administrative expense	70	964
<b>Total compensation expense</b>	<b>\$ 112</b>	<b>\$ 1,296</b>

**15. Net Loss Per Share**

The following table sets forth the outstanding common unit equivalents and common stock equivalents, presented based on amounts outstanding at each period end, that were excluded from the calculation of diluted net loss per unit or per share for the periods indicated because including them would have been anti-dilutive.

	Year Ended December 31, 2019	Year Ended December 31, 2020
Preferred units	6,198,241	—
Convertible preferred stock	—	7,030,359
Outstanding incentive units	571,712	—
Unvested restricted common stock	—	283,969
Outstanding stock options	—	810,358
Warrants	2,631	2,631
<b>Total common stock equivalents</b>	<b>6,772,584</b>	<b>8,127,317</b>

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**16. Income Taxes**

The Company has not recorded a current or deferred tax provision for the years ended December 31, 2019 and 2020. The effective income tax rate differed from the amount computed by applying the federal statutory rate to the Company's loss before income taxes as follows:

	For Year Ended December 31,	
	2019	2020
Tax effected at statutory rate	21.0%	21.0%
State taxes	8.0	6.9
Stock compensation	(0.1)	(0.4)
Non-deductible expenses	2.1	—
Federal research and development credits	3.0	1.7
Change in valuation allowance	(34.0)	(29.2)
	<u>0.0%</u>	<u>0.0%</u>

Deferred tax assets consist of the following at December 31, 2019 and 2020 (in thousands):

	For Year Ended December 31,	
	2019	2020
<b>Long-term net deferred tax assets:</b>		
Net operating loss carryforwards	\$ 7,758	\$ 20,776
Research and development credit carryforwards	789	2,101
Lease liability	2,465	3,134
Reserve and accruals	307	765
Intangible assets	—	1,912
Stock-based compensation	—	105
Total long-term net deferred tax assets:	11,319	28,793
Valuation allowance	(8,625)	(25,064)
Subtotal	2,694	3,729
Fixed assets	(806)	(1,944)
Right of use asset	(1,794)	(1,724)
Debt discount	(94)	(61)
Total net deferred tax assets	<u>\$ —</u>	<u>\$ —</u>

Deferred tax assets are reduced by a valuation allowance if, based on the weight of available positive and negative evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. For the years ended December 31, 2019 and 2020, the valuation allowance for deferred tax assets increased by \$5.9 million and \$16.4 million, respectively. This increase mainly relates to the establishment of valuation allowance against additional net operating loss and research credit carryovers generated in the current year.

As of December 31, 2020, the Company had \$78.0 million and \$69.6 million of federal and state operating loss carryforwards respectively. Of the federal net operating loss carryovers, \$4.8 million begin to expire in 2035. The remainder of the net operating losses are not subject to expiration. The state net operating losses begin to expire in 2035. In addition, as of December 31, 2020, the Company had \$1.5 million and \$0.8 million of federal and state credit carryovers which begin to expire in 2037. These loss and credit carryforwards are subject to review and possible adjustment by the appropriate taxing authorities.

## XILIO THERAPEUTICS, INC.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

**16. Income Taxes (Continued)**

Utilization of the Company's net operating loss ("NOL") carryforwards and research and development credit carryforwards may be subject to a substantial annual limitation due to ownership change limitations that have occurred previously or that could occur in the future in accordance with Section 382 of the Internal Revenue Code of 1986, as amended ("Section 382") as well as similar state provisions. These ownership changes may limit the amount of NOL and research and development credit carryforwards that can be utilized annually to offset future taxable income and taxes, respectively. In general, an ownership change as defined by Section 382 results from transactions increasing the ownership of certain stockholders or public groups in the stock of a corporation by more than 50% over a three-year period. Since its formation, the Company has raised capital through the issuance of capital stock on several occasions. These financings could result in a change of control as defined by Section 382. The Company has not yet completed a detailed study of its inception to date ownership change activity.

The Company follows the provisions of ASC 740-10, "Accounting for Uncertainty in Income Taxes," which specifies how tax benefits for uncertain tax positions are to be recognized, measured, and recorded in financial statements; requires certain disclosures of uncertain tax matters; specifies how reserves for uncertain tax positions should be classified on the balance sheet; and provides transition and interim period guidance, among other provisions. As of December 31, 2019 and 2020, the Company has not recorded any amounts for uncertain tax positions. The Company's policy is to recognize interest and penalties accrued on any uncertain tax positions as a component of income tax expense, if any, in its statements of income. For the years ended December 31, 2019 and 2020, no estimated interest or penalties were recognized on uncertain tax positions. The Company has not yet conducted a study of its research and development credit carry forwards. Such a study may result in an adjustment to the Company's research and development credit carryforwards; however, until a study is completed and any adjustment is known, no amount is being presented as an uncertain tax position. A full valuation allowance has been provided against the Company's research and development credits, and, if an adjustment is required, this adjustment would be offset by an adjustment to the valuation allowance. Thus, there would be no impact to the balance sheet or statement of operations and comprehensive loss if an adjustment were required.

**17. Employee Benefit Plan**

In 2018, the Company established a defined contribution savings plan under Section 401(k) of the Internal Revenue Code, as amended, the Xilio Therapeutics, Inc. 401(k) Plan (the "401(k) Plan"). The 401(k) Plan covers substantially all employees who meet minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. The Company is not required to make and has not made any contributions to the 401(k) Plan through December 31, 2020.

**18. Subsequent Events**

The Company considers events and transactions that occur after the balance sheet date but prior to the issuance of the consolidated financial statements for potential recognition or disclosure in the consolidated financial statements. Subsequent events have been evaluated through May 24, 2021, the date these consolidated financial statements were issued, for potential recognition or disclosure in the consolidated financial statements.

**(a) Amendment to 2020 Stock Incentive Plan**

On January 27, 2021, the Company amended its 2020 Plan to increase the number of shares of common stock issuable under the 2020 Plan from 991,021 to 2,254,179, plus up to 364,120 of additional shares of common stock equal to the number of shares of unvested restricted stock issued in exchange for incentive units as part of the Reorganization, to the extent such shares have been or will be forfeited. On February 22, 2021 the Company further amended its 2020 Plan to increase the number of common stock issuable under the 2020 Plan from 2,254,179 to 2,996,284, plus up to 364,120 of additional shares of common stock equal to the

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

**18. Subsequent Events (Continued)**

**(a) Amendment to 2020 Stock Incentive Plan (Continued)**

number of shares of unvested restricted stock issued in exchange for incentive units as part of the Reorganization, to the extent such shares have been or will be forfeited.

**(b) Series B Convertible Preferred Stock**

On January 20, 2021, the Company issued and sold 39,723,312 shares of Series B convertible preferred stock to existing Series B holders at \$1.265 per share for cash proceeds of \$50.2 million, net of issuance costs.

**(c) Amendment to Certificate of Incorporation**

On January 27, 2021, the Company amended its certificate of incorporation to increase the authorized number of shares of common stock from 126,000,000 shares to 138,000,000 shares.

**(d) Amended and Restated Certificate of Incorporation**

On February 22, 2021, the Company amended and restated its certificate of incorporation to increase the authorized number of shares of common stock to 213,000,000 shares and to increase the authorized number of shares of Convertible Preferred Stock to 174,808,481 shares, of which 7,525,000 shares are designated as Series A convertible preferred stock, 19,565,216 shares are designated as Series A-1 convertible preferred stock, 79,446,624 shares are designated as Series B convertible preferred stock, and 68,271,641 shares are designated as Series C convertible preferred stock.

**(e) Series C Convertible Preferred Stock**

On February 23, 2021, the Company entered into a preferred stock purchase agreement with existing and new investors whereby the Company issued and sold 68,271,641 shares of Series C convertible preferred stock to investors at \$1.3915 per share for cash proceeds of \$94.7 million, net of issuance costs.

**(f) Reverse Stock Split**

The Company's board of directors and stockholders approved an amendment to the Company's certificate of incorporation, which became effective on October 15, 2021. The amendment, among other things, effected a 1-for-9.5 reverse stock split of the Company's issued and outstanding common stock and eliminated the minimum price per share of common stock for an underwritten public offering that would result in the automatic conversion of the Company's outstanding convertible preferred stock. Accordingly, all common share and per share amounts in the consolidated financial statements and notes thereto have been retroactively adjusted for all periods presented to give effect to the reverse stock split, including reclassifying an amount equal to the reduction in par value of common stock to additional paid-in capital.

**XILIO THERAPEUTICS, INC.**  
**CONDENSED CONSOLIDATED BALANCE SHEETS**  
**(Unaudited)**  
(In thousands, except share and per share data)

	December 31, 2020	June 30, 2021
<b>ASSETS</b>		
Current assets		
Cash and cash equivalents	\$ 19,238	\$ 120,299
Prepaid expenses	1,308	1,932
Other current assets	44	2,355
Total current assets	20,590	124,586
Restricted cash	1,551	1,553
Property and equipment, net	7,367	7,299
Operating lease right-of-use asset	6,309	6,150
Other non-current assets	500	436
Total assets	<u>\$ 36,317</u>	<u>\$ 140,024</u>
<b>LIABILITIES AND STOCKHOLDERS' DEFICIT</b>		
Current liabilities		
Accounts payable	\$ 5,444	\$ 8,409
Accrued expenses	13,732	8,068
Operating lease liability, current portion	564	746
Notes payable, current portion	2,333	4,000
Other current liabilities	82	82
Total current liabilities	22,155	21,305
Notes payable, net of current portion	7,412	5,481
Operating lease liability, net of current portion	10,908	10,522
Other liabilities, long-term	1,127	1,137
Total liabilities	41,602	38,445
Commitments and contingencies (Note 6)		
Convertible preferred stock (Series A, A-1, A-2(A), A-2(A-1), B and C), \$0.0001 par value, 133,602,056 shares authorized and 66,788,528 shares issued and outstanding at December 31, 2020; 174,808,481 shares authorized and 174,783,481 shares issued and outstanding at June 30, 2021; aggregate liquidation preference of \$80,250 and \$225,500 at December 31, 2020 and June 30, 2021, respectively	78,002	222,888
Stockholders' deficit		
Common stock, \$0.0001 par value; 126,000,000 shares authorized, 973,898 shares issued and 689,929 shares outstanding at December 31, 2020; 220,400,000 shares authorized, 918,429 shares issued and 750,101 shares outstanding at June 30, 2021	—	—
Additional paid-in capital	1,799	3,625
Accumulated deficit	(85,086)	(124,934)
Total stockholders' deficit	(83,287)	(121,309)
Total liabilities, convertible preferred stock and stockholders' deficit	<u>\$ 36,317</u>	<u>\$ 140,024</u>

The accompanying notes are an integral part of these condensed consolidated financial statements.

**XILIO THERAPEUTICS, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS**  
**(Unaudited)**  
**(In thousands, except share and per share data)**

	Six Months Ended June 30,	
	2020	2021
Operating expenses		
Research and development	\$ 14,783	\$ 29,366
General and administrative	4,562	10,161
Total operating expenses	19,345	39,527
Loss from operations	(19,345)	(39,527)
Other income (expense), net		
Other expense, net	(283)	(321)
Total other income (expense), net	(283)	(321)
Net loss and comprehensive loss	<u>\$ (19,628)</u>	<u>\$ (39,848)</u>
Net loss per share, basic and diluted	<u>\$ (47.84)</u>	<u>\$ (55.16)</u>
Weighted average common shares outstanding, basic and diluted	<u>410,310</u>	<u>722,424</u>

The accompanying notes are an integral part of these condensed consolidated financial statements.



**XILIO THERAPEUTICS, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF PREFERRED UNITS AND CONVERTIBLE PREFERRED STOCK AND**  
**MEMBERS' AND STOCKHOLDERS' DEFICIT**  
**(Unaudited)**  
**(In thousands, except unit and share data)**

	Series A Preferred Units		Series A-1 Preferred Units		Series B Preferred Units		Series A Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Series B Convertible Preferred Stock		Series C Convertible Preferred Stock		Common Units		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Members' and Stockholders' Deficit
	Units	Amount	Units	Amount	Units	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Units	Amount	Shares	Amount			
<b>Balance at December 31, 2019</b>	7,500,000	\$ 7,309	19,565,216	\$ 20,740	31,818,174	\$ 39,984	—	\$ —	—	\$ —	—	\$ —	—	\$ —	409,303	\$—	—	\$—	\$ 344	\$ (29,867)	\$ (29,523)
Issuance of Series B preferred units, net of issuance costs of \$31	—	—	—	—	7,905,138	9,969	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Effect of reorganization	(7,500,000)	(7,309)	(19,565,216)	(20,740)	(39,723,312)	(49,953)	7,500,000	7,309	19,565,216	20,740	39,723,312	49,953	—	—	(409,303)	—	409,303	—	—	—	—
Vesting of restricted common stock	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	188,976	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	247	—	247
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(19,628)	(19,628)
<b>Balance at June 30, 2020</b>	—	\$ —	—	\$ —	—	\$ —	7,500,000	\$7,309	19,565,216	\$20,740	39,723,312	\$ 49,953	—	\$ —	—	\$—	598,279	\$—	\$ 591	\$ (49,495)	\$ (48,904)
<b>Balance at December 31, 2020</b>	—	—	—	—	—	—	7,500,000	\$7,309	19,565,216	\$20,740	39,723,312	\$ 49,953	—	\$ —	—	—	689,929	\$—	\$1,799	\$ (85,086)	\$ (83,287)
Issuance of Series B convertible preferred stock, net of issuance costs of \$50	—	—	—	—	—	—	—	—	—	—	39,723,312	50,200	—	—	—	—	—	—	—	—	—
Issuance of Series C convertible preferred stock, net of issuance costs of \$314	—	—	—	—	—	—	—	—	—	—	—	—	68,271,641	94,686	—	—	—	—	—	—	—
Vesting of restricted common stock	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54,665	—	—	—	—
Exercise of stock options	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5,507	—	30	—	30
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,796	—	1,796
Net loss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(39,848)	(39,848)
<b>Balance at June 30, 2021</b>	—	\$ —	—	\$ —	—	\$ —	7,500,000	\$7,309	19,565,216	\$20,740	79,446,624	\$100,153	68,271,641	\$94,686	—	\$—	750,101	\$—	\$3,625	\$ (124,934)	\$ (121,309)

The accompanying notes are an integral part of these condensed consolidated financial statements.

**XILIO THERAPEUTICS, INC.**  
**CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**  
**(Unaudited)**  
**(In thousands)**

	Six Months Ended June 30, 2020	Six Months Ended June 30, 2021
<b>Cash flows from operating activities:</b>		
Net loss	\$(19,628)	\$ (39,848)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	408	723
Non-cash interest expense	(39)	78
Stock-based compensation expense	247	1,796
Loss on disposal of property and equipment	—	19
Change in fair value of warrant and derivative liabilities	385	44
Changes in operating assets and liabilities:		
Prepaid and other assets	3,360	(1,398)
Operating lease right-of-use asset	152	159
Accounts payable	(259)	1,921
Accrued expenses and other liabilities	2,425	(6,159)
Operating lease liability	24	(205)
Net cash used in operating activities	<u>(12,925)</u>	<u>(42,870)</u>
<b>Cash flows from investing activities:</b>		
Purchases of property and equipment	(1,506)	(608)
Net cash used in investing activities	<u>(1,506)</u>	<u>(608)</u>
<b>Cash flows from financing activities:</b>		
Repayments of debt principal	—	(333)
Payments of finance lease	—	(42)
Proceeds from issuance of Series B preferred units, net of issuance costs	9,969	—
Proceeds from issuance of Series B convertible preferred stock, net of issuance costs	—	50,200
Proceeds from issuance of Series C convertible preferred stock, net of issuance costs	—	94,686
Proceeds from exercise of stock options	—	30
Net cash provided by financing activities	<u>9,969</u>	<u>144,541</u>
(Decrease) increase in cash, cash equivalents & restricted cash	(4,462)	101,063
Cash, cash equivalents and restricted cash, beginning of period	49,039	20,789
Cash, cash equivalents and restricted cash, end of period	<u>\$ 44,577</u>	<u>\$121,852</u>
<b>Supplemental cash flow disclosure:</b>		
Cash paid for interest	\$ 282	\$ 253
<b>Supplemental disclosure of non-cash activities:</b>		
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 39	\$ —
Tenant improvements funded by landlord	\$ 2,827	\$ —
Capital expenditures included in accounts payable or accrued expenses	\$ 30	\$ 2
Deferred offering costs included in accounts payable or accrued expenses	\$ —	\$ 1,538

The accompanying notes are an integral part of these condensed consolidated financial statements.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**  
**(unaudited)**

**1. Description of Business, Organization and Liquidity**

***Description of Business***

Xilio Therapeutics, Inc., incorporated in Delaware in June 2020, is a biotechnology company focused on harnessing the immune system to achieve deep and durable clinical responses to improve the lives of patients with cancer.

For purposes of these consolidated financial statements, the “Company” refers to Xilio Therapeutics LLC (formerly Akriveia Therapeutics Inc., Akriveia Therapeutics LLC and Akrevia Therapeutics LLC) prior to the reorganization described below, and Xilio Therapeutics, Inc. after such reorganization. The Company’s headquarters are based in Waltham, Massachusetts.

***Organization***

Akriveia Therapeutics Inc. was incorporated in Delaware in June 2015. In May 2016, Akriveia Therapeutics Inc. completed its first tax free reorganization and the parent entity became Akriveia Therapeutics LLC. Akriveia Therapeutics LLC subsequently changed its name to Akrevia Therapeutics LLC in May 2018 and then to Xilio Therapeutics LLC in February 2020. In June 2020, the Company completed a series of transactions pursuant to which Xilio Therapeutics LLC became a direct, wholly owned subsidiary of Xilio Therapeutics, Inc., and all of the outstanding membership interests of Xilio Therapeutics LLC were exchanged for equity securities of Xilio Therapeutics, Inc. and Xilio Therapeutics, Inc. became the parent entity (the “Reorganization”). The purpose of the transaction was to reorganize the corporate structure so that existing investors would own capital stock in a corporation rather than equity interests in a limited liability company.

Upon consummation of the Reorganization, the historical consolidated financial statements of Xilio Therapeutics LLC became the historical consolidated financial statements of Xilio Therapeutics, Inc.

***Liquidity***

Since inception, the Company has devoted substantially all of its financial resources and efforts to research and development activities.

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including but not limited to, risks associated with completing research programs and conducting additional research programs, advancing the Company’s current and future product candidates into preclinical and clinical development, seeking marketing approvals for any product candidates that successfully complete clinical trials, obtaining, expanding, maintaining and defending the Company’s intellectual property, and hiring additional clinical, regulatory, and scientific personnel. Programs currently under development will require significant additional research and development efforts, including preclinical and clinical testing and will need to obtain regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if the Company’s product development efforts are successful, it is uncertain when, if ever, the Company will realize revenue from product sales.

The Company has primarily funded its operations with proceeds from private placements of preferred units, which were exchanged for shares of convertible preferred stock, private placements of convertible preferred stock and a debt financing. From inception through June 30, 2021, the Company has raised \$234.5 million in aggregate cash proceeds from these transactions, net of issuance costs. The Company has determined that its existing capital resources will be sufficient to meet the projected operating requirements and capital expenditures for at least twelve months from the date of issuance of these condensed consolidated financial statements. The Company expects to continue to generate negative cash flows from operations and net losses for the foreseeable future as it continues to invest significantly in research and development of its product candidates, including preclinical, clinical and manufacturing process development. Management’s conclusion

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**1. Description of Business, Organization and Liquidity (Continued)**

***Liquidity (Continued)***

with respect to its ability to fund operations is based on estimates that are subject to risks and uncertainties that may prove to be incorrect. If actual results differ from management's estimates, the Company may be required to seek additional funding or curtail planned activities to reduce operating expenses, which may have an adverse impact on the Company's ability to achieve its business objectives.

**2. Summary of Significant Accounting Policies**

***Basis of Presentation***

These condensed financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASUs") of the Financial Accounting Standards Board ("FASB").

In April 2012, the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act") was enacted. Section 107(b) of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. The Company has elected not to "opt out" of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, the Company can adopt the new or revised standard at the time private companies adopt the new or revised standard and may do so until such time that the Company either (1) irrevocably elects to "opt out" of such extended transition period or (2) no longer qualifies as an emerging growth company. The Company may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of its initial public offering or such earlier time that it is no longer an emerging growth company.

The Company's significant accounting policies are disclosed in the audited consolidated financial statements included elsewhere in this prospectus. Since the date of such audited consolidated financial statements, there have been no changes to the Company's significant accounting policies except as noted below.

***Unaudited Interim Condensed Consolidated Financial Information***

The accompanying condensed consolidated balance sheet as of June 30, 2021, the condensed consolidated statements of operations and comprehensive loss and statements of cash flows for the six months ended June 30, 2020 and 2021 and the condensed consolidated statements of preferred units and convertible preferred stock and members' and stockholders' deficit for the six months ended June 30, 2020 and 2021 are unaudited. The financial data and other information contained in the notes thereto as of and for the six months ended June 30, 2020 and 2021 are also unaudited. The condensed consolidated balance sheet data as of December 31, 2020 was derived from the Company's audited consolidated financial statements included elsewhere in this prospectus.

The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited annual consolidated financial statements, and in the opinion of management, reflect all adjustments, which include only normal recurring adjustments necessary for the fair presentation of the Company's financial position as of June 30, 2021 and the results of its operations and cash flows for the six months ended June 30, 2020 and 2021. These unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements as of and for the year ended December 31, 2020, and the notes thereto, included elsewhere in this prospectus.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**2. Summary of Significant Accounting Policies (Continued)**

*Unaudited Interim Condensed Consolidated Financial Information (Continued)*

The results for the six months ended June 30, 2021 are not necessarily indicative of results to be expected for the year ended December 31, 2021, or any other interim periods, or any future year or period.

*Use of Estimates*

The preparation of financial statements in accordance with GAAP requires management to make estimates and judgments that may affect the reported amounts of assets and liabilities and related disclosures of contingent assets and liabilities at the date of the financial statements and the related reporting of expenses during the reporting period. Management considers many factors in selecting appropriate financial accounting policies and controls, and in developing the estimates and assumptions that are used in the preparation of these condensed consolidated financial statements. Factors that may affect estimates, include expected business and operational changes, sensitivity and volatility associated with the assumptions used in developing estimates, and whether historical trends are expected to be representative of future trends. The estimation process often may yield a range of potentially reasonable estimates of the ultimate future outcomes and management must select an amount that falls within that range of reasonable estimates. Significant estimates of accounting reflected in these condensed consolidated financial statements include, but are not limited to, estimates related to accrued expenses, contingent liabilities associated with the consummation of specified transactions, including an initial public offering, the valuation of equity-based compensation, including incentive units, stock options and restricted common stock, and income taxes. Actual results could differ from those estimates.

*Cash Equivalents and Restricted Cash*

The Company considers all short-term, highly liquid investments with original maturities of 90 days or less at acquisition date to be cash equivalents. Cash equivalents, which consist of money market accounts, are stated at fair value. Restricted cash primarily represents a letter of credit issued to the landlord of the Company's facility lease and is reflected in non-current assets on the accompanying condensed consolidated balance sheets. Cash, cash equivalents and restricted cash consists of the following (in thousands):

	Balance at June 30,	
	2020	2021
Cash and cash equivalents	\$ 43,025	\$ 120,299
Restricted cash	1,552	1,553
Total cash, cash equivalents and restricted cash as shown on the consolidated statement of cash flows	<u>\$ 44,577</u>	<u>\$ 121,852</u>

*Deferred Offering Costs*

The Company capitalizes certain legal, professional, accounting and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until the related financings are consummated. After consummation of the equity financing, such costs are reclassified as a reduction to additional paid-in capital generated as a result of the relating financing. Should an in-process equity financing be abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the condensed consolidated statements of operations and comprehensive loss. Deferred offering costs are presented as a component of other current assets on the condensed consolidated balance sheets. As of June 30, 2021, the Company capitalized \$2.2 million of deferred offering costs related to the Company's planned initial public offering. There were no deferred offering costs as of December 31, 2020.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**2. Summary of Significant Accounting Policies (Continued)**

***Deferred Offering Costs (Continued)***

***Comprehensive Loss***

Comprehensive loss is the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. Comprehensive loss includes net loss and the change in accumulated other comprehensive loss for the period. The Company did not have any items of comprehensive loss other than net loss for the six months ended June 30, 2020 and 2021.

***Equity-Based Compensation***

The Company utilizes significant estimates and assumptions in determining the fair value of its equity and equity-based awards. Beginning in the six months ended June 30, 2021, the Company determined the fair value of shares of its common stock underlying stock-based awards granted using a hybrid approach. The hybrid approach is a scenario-based analysis and where one or more of the scenarios allocate the equity value utilizing the option-pricing method (“OPM”). When using the hybrid approach, the Company estimates the probability-weighted value across multiple scenarios but used the OPM to estimate the allocation of value within at least one of the scenarios. In addition to a scenario using the OPM, the hybrid method also considers an initial public offering scenario in which the shares of convertible preferred stock are assumed to convert to common stock. The future value of the common stock in the initial public offering scenario was discounted back to the valuation date at an appropriate risk adjusted discount rate. In the hybrid method, the present value indicated for each scenario was probability weighted to arrive at an indication of value for the Company’s common stock.

***Recently Adopted Accounting Pronouncements***

The Company did not adopt any new accounting standards during the six month period ended June 30, 2021. The Company continues to evaluate accounting standards that were recently issued but not yet adopted as of June 30, 2021.

**3. Fair Value Measurements**

The Company measures the following financial liabilities at fair value on a recurring basis. The fair value of these liabilities was determined as follows (in thousands):

	December 31, 2020	Quoted Prices in Active Markets for Material Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Financial liabilities:</b>				
Debt derivative liability	\$ 396	\$ —	\$ —	\$ 396
Other derivative liability	407	—	—	407
Warrant to purchase Series A convertible preferred stock	22	—	—	22
<b>Total financial liabilities</b>	<b>\$ 825</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 825</b>

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**3. Fair Value Measurements (Continued)**

	June 30, 2021	Quoted Prices in Active Markets for Material Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Financial liabilities:</b>				
Debt derivative liability . . . . .	\$ 422	\$ —	\$ —	\$ 422
Other derivative liability . . . . .	426	—	—	426
Warrant to purchase Series A convertible preferred stock . . . . .	21	—	—	21
<b>Total financial liabilities . . . . .</b>	<b>\$ 869</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 869</b>

During the year ended December 31, 2020 and the six months ended June 30, 2021, the Company did not hold any investments and there were no transfers between Level 1, Level 2, and Level 3.

The fair value of the warrant liability is calculated utilizing the Black-Scholes option-pricing model and contains significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy.

The fair values of the debt derivative liability and the other derivative liability that are contingently payable upon the consummation of specified transactions, including an initial public offering, are based on significant inputs not observable in the market, including estimates regarding the probability of certain potential future events and outcomes and estimates regarding timing of those events and outcomes, with an applied discount rate representative of time value which represents a Level 3 measurement within the fair value hierarchy.

The following table summarizes the changes in the fair market value of the Company's warrant liability, debt derivative liability and other derivative liability, which are classified within the Level 3 fair value hierarchy (in thousands):

	Warrant liability	Debt derivative liability	Other derivative liability	Total level 3 financial liabilities
Balance at December 31, 2020	\$ 22	\$ 396	\$ 407	\$ 825
Change in fair value of liability	(1)	26	19	44
Balance at June 30, 2021	<u>\$ 21</u>	<u>\$ 422</u>	<u>\$ 426</u>	<u>\$ 869</u>

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**4. Property and Equipment, Net**

Property and equipment, net consists of the following as of December 31, 2020 and June 30, 2021 (in thousands):

	December 31, 2020	June 30, 2021
Laboratory equipment	\$ 2,925	\$ 3,443
Computers and software	228	228
Furniture & fixtures	482	469
Leasehold improvements	5,092	5,092
Construction in process	—	70
	<u>\$ 8,727</u>	<u>\$ 9,302</u>
Less accumulated depreciation	<u>(1,360)</u>	<u>(2,003)</u>
	<u>\$ 7,367</u>	<u>\$ 7,299</u>

The Company incurred depreciation and amortization expense of \$0.4 million and \$0.7 million for the six months ended June 30, 2020 and 2021, respectively.

**5. Accrued Expenses**

Accrued expenses consist of the following (in thousands):

	December 31, 2020	June 30, 2021
External research and development	\$ 11,060	\$ 4,564
Personnel related	2,013	1,983
Professional services	481	1,348
Other	178	173
	<u>\$ 13,732</u>	<u>\$ 8,068</u>

**6. Commitments and Contingencies**

***Purchase Commitments***

The Company has contractual arrangements with research and development organizations and suppliers. However, these contracts are generally cancelable on 30 days' notice and the obligations under these contracts are primarily based on services performed.

***Leases***

The Company has an operating lease for its facility and a finance lease for certain lab equipment. As of December 31, 2020 and June 30, 2021, the Company has a letter of credit for the benefit of its landlord in the amount of \$1.6 million, collateralized by a money market fund.

***Legal Proceedings***

From time to time, the Company may be party to litigation arising in the ordinary course of business. The Company was not subject to any material legal proceedings during the year ended December 31, 2020 or during the six months ended June 30, 2021.



**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**6. Commitments and Contingencies (Continued)**

***Guarantees and Indemnifications***

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend an indemnified party for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third-party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. The Company has never incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. The Company has also entered into indemnification agreements with its directors that may require the Company to indemnify its directors against liabilities that may arise by reason of their status or service as directors to the fullest extent permitted by Delaware corporate law. The Company currently has directors' and officers' insurance.

**7. Convertible Preferred Stock and Common Stock**

***Convertible Preferred Stock***

As of December 31, 2020, the Company had authorized 133,602,056 shares of convertible preferred stock, which consisted of the following: 7,525,000 shares of Series A convertible preferred stock, 19,565,216 shares of Series A-1 convertible preferred stock, 7,500,000 shares of Series A-2(A) convertible preferred stock, 19,565,216 shares of Series A-2(A-1) convertible preferred stock, and 79,446,624 shares of Series B convertible preferred stock.

On January 20, 2021, the Company issued 39,723,312 shares of Series B convertible preferred stock to existing Series B convertible preferred stockholders at \$1.265 per share for cash proceeds of \$50.2 million, net of issuance costs.

On February 22, 2021, the Company amended and restated its certificate of incorporation to authorize 174,808,481 shares of Convertible Preferred Stock, of which 7,525,000 shares are designated as Series A convertible preferred stock, 19,565,216 shares are designated as Series A-1 convertible preferred stock, 79,446,624 shares are designated as Series B convertible preferred stock, and 68,271,641 shares are designated as Series C convertible preferred stock.

On February 23, 2021, the Company entered into a stock purchase agreement with existing and new investors whereby the Company issued and sold 68,271,641 shares of Series C convertible preferred stock to investors at \$1.3915 per share for cash proceeds of \$94.7 million, net of issuance costs.

The Company has evaluated the convertible preferred stock and determined that they should be considered an "equity host" and not a "debt host." The evaluation was necessary to determine if any embedded features required bifurcation and separate accounting as a derivative financial instrument. The Company's analysis was based on a consideration of the economic characteristics and risks and more specifically, evaluated all the stated and implied substantive terms and features including (i) whether the convertible preferred stock included redemption features, (ii) how and when any redemption features could have been exercised, (iii) whether the convertible preferred stock were entitled to dividends, (iv) the voting rights of the convertible preferred stock and (v) the existence and nature of any conversion rights. As a result of its evaluation that the convertible preferred stock is an "equity host," the various embedded conversion options are not considered a separate, embedded derivative.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**7. Convertible Preferred Stock and Common Stock (Continued)**

*Convertible Preferred Stock (Continued)*

The Company's convertible preferred stock (collectively, the "Convertible Preferred Stock") consisted of the following (in thousands, except share amounts):

As of December 31, 2020					
	Preferred Shares Authorized	Preferred Shares Issued and Outstanding	Carrying Value	Liquidation Preference	Common Shares Issuable Upon Conversion
Series A convertible preferred stock . . . . .	7,525,000	7,500,000	\$ 7,309	\$ 7,500	789,473
Series A-1 convertible preferred stock . . . . .	19,565,216	19,565,216	20,740	22,500	2,059,496
Series A-2(A) convertible preferred stock . . . . .	7,500,000	—	—	—	—
Series A-2(A-1) convertible preferred stock . . . . .	19,565,216	—	—	—	—
Series B convertible preferred stock . . . . .	79,446,624	39,723,312	49,953	50,250	4,181,390
	133,602,056	66,788,528	\$ 78,002	\$ 80,250	7,030,359
As of June 30, 2021					
	Preferred Shares Authorized	Preferred Shares Issued and Outstanding	Carrying Value	Liquidation Preference	Common Shares Issuable Upon Conversion
Series A convertible preferred stock	7,525,000	7,500,000	\$ 7,309	\$ 7,500	789,473
Series A-1 convertible preferred stock	19,565,216	19,565,216	20,740	22,500	2,059,496
Series B convertible preferred stock	79,446,624	79,446,624	100,153	100,500	8,362,793
Series C convertible preferred stock	68,271,641	68,271,641	94,686	95,000	7,186,486
	174,808,481	174,783,481	\$ 222,888	\$ 225,500	18,398,248

As of June 30, 2021, the Company's Convertible Preferred Stock has the following rights and preferences:

*Liquidation*

In the event of any liquidation, dissolution or winding up of affairs of the Company (including a change of control), distributions would have first been made to holders of the Series B convertible preferred stock and the Series C convertible preferred stock until, on a share by share basis, each share of Series B and Series C convertible preferred stock has been distributed its original issuance price (\$1.265 for Series B convertible preferred stock and \$1.3915 for Series C convertible preferred stock) plus any declared but unpaid dividends.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**7. Convertible Preferred Stock and Common Stock (Continued)**

*Convertible Preferred Stock (Continued)*

If the distribution amount is insufficient to pay the holders of shares of Series B convertible preferred stock and Series C preferred stock, the full amount in which they are entitled, the holders of the Series B convertible preferred stock and the Series C convertible preferred stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect to the share held by them upon such distribution if all amounts payable on or with respect to such share were paid in full.

After distribution to the Series B and Series C convertible preferred stock holders, the holders of Series A and Series A-1 convertible preferred stock would receive a distribution until, on a share by share basis, each share of Series A and Series A-1 convertible preferred stock has been distributed an amount equal to the Series A and Series A-1 convertible preferred stock original issuance price plus any declared but unpaid dividends. The Series A and Series A-1 convertible preferred stock issuance price is \$1.00 and \$1.15 per stock, respectively. After distribution to the Series A and Series A-1 convertible preferred stockholders, any remaining amounts are distributed to the holders of the common stock and convertible preferred stock in proportion to the number of shares of stock held by each (on an as-converted basis).

*Conversion*

Shares of Convertible Preferred Stock may be converted by the holder at any time into a number of shares of common stock equal to such number of shares as determined by dividing the original issue price by the conversion price in effect at the time. The conversion price is equal to \$9.50 for the Series A convertible preferred stock, \$10.93 for the Series A-1 convertible preferred stock, \$12.02 for the Series B convertible preferred stock and \$13.22 for the Series C convertible preferred stock. The conversion price is subject to adjustments in the event of any stock dividend, stock split, combination or other similar recapitalization and other adjustments as set forth in the Company's certificate of incorporation. Upon the closing of a sale of shares of common stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, in which the aggregate gross proceeds to the Company are at least \$50.0 million, all outstanding Convertible Preferred Stock will be automatically converted into a number of shares of common stock at the then applicable conversion rate.

*Voting*

Holders of Convertible Preferred Stock vote together with the holders of common stock as a single class. Any action to be taken by the stockholders requires the approval of stockholders holding a majority of the outstanding Convertible Preferred Stock and common stock, voting together as a single class on an as-converted basis, unless a different threshold is specifically required by law or by the Company's certificate of incorporation.

*Dividends*

If any dividends are declared by the board of directors on the Convertible Preferred Stock, such dividends shall be at an annual rate of \$0.060 per share of Series A convertible preferred stock, \$0.069 per share of Series A-1 convertible preferred stock, \$0.0759 per share of Series B convertible preferred stock, and \$0.0835 per share of Series C convertible preferred stock, subject in each case to appropriate adjustment in the event of any dividend, split, combination or other similar recapitalization with respect to the applicable series of Convertible Preferred Stock, and shall be non-cumulative. Since inception, the Company has not declared any dividends.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**7. Convertible Preferred Stock and Common Stock (Continued)**

*Convertible Preferred Stock (Continued)*

*Common Stock*

As of December 31, 2020 and June 30, 2021, the Company's Certificate of Incorporation, as amended, authorized the Company to issue 126,000,000 and 220,400,000 shares of \$0.0001 par value common stock, respectively.

*Shares Reserved for Future Issuance*

The Company had reserved shares of common stock for the conversion of outstanding Convertible Preferred Stock and for future issuance under the 2020 Stock Incentive Plan (as amended, the "2020 Plan") as of the following dates:

	December 31, 2020	June 30, 2021
Shares of common stock reserved for conversion of convertible preferred stock outstanding	7,030,359	18,398,248
Shares of common stock reserved for conversion of convertible preferred shares issuable upon exercise of a warrant	2,631	2,631
Shares of common stock reserved for exercise of outstanding stock options under the 2020 Stock Incentive Plan	810,358	3,275,172
Shares of common stock reserved for future awards under the 2020 Stock Incentive Plan	151,769	541,483
<b>Total common stock reserved</b>	<b>7,995,117</b>	<b>22,217,534</b>

**8. Equity-Based Compensation**

*Equity Incentive Plans*

During the six months ended June 30, 2021, the Company amended its 2020 Plan to increase the common stock issuable under the plan from 991,021 shares to 3,773,235 shares, plus up to 364,120 of additional shares of common stock equal to the number of shares of unvested restricted stock issued in exchange for incentive units as part of the Reorganization, to the extent such shares have been or will be forfeited.

*Restricted Stock*

A summary of the Company's restricted stock activity and related information is as follows:

	Number of Shares of Restricted Stock	Weighted Average Grant Date Fair Value
Unvested as of December 31, 2020	283,969	\$ 5.51
Vested	(54,665)	5.51
Canceled/Forfeited	(60,976)	5.51
Unvested as of June 30, 2021	<u>168,328</u>	5.51

The Company had granted 552,546 restricted stock awards as of June 30, 2020 in connection with the Reorganization. During the six months ended June 30, 2021, the aggregate fair value of restricted stock awards

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**8. Equity-Based Compensation (Continued)**

**Restricted Stock (Continued)**

that vested was \$388,593. As of June 30, 2021, total unrecognized compensation cost related to unvested restricted stock awards was approximately \$1.0 million, which is expected to be recognized over a weighted-average period of 2.21 years.

**Stock Options**

A summary of stock option activity under the 2020 Plan is as follows:

	Number of Stock Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (In years)	Aggregate Intrinsic Value (In thousands)
Outstanding as of December 31, 2020	810,358	\$ 5.51	9.52	\$ —
Granted	2,585,142	6.63		
Exercised	(5,507)	5.52		
Cancelled/forfeited	(114,821)	5.65		
Outstanding as of June 30, 2021	<u>3,275,172</u>	6.39	9.44	\$ 12,061,409
Exercisable as of June 30, 2021	<u>390,595</u>	5.64	8.35	\$ 1,729,021
Vested and expected to vest as of June 30, 2021	<u>3,275,172</u>	6.39	9.44	\$ 12,061,409

Using the Black-Scholes option pricing model, the weighted average fair value of options granted to employees and directors during the six months ended June 30, 2021 was \$4.71. The following assumptions were used in determining the fair value of options granted to employees during the six months ended June 30, 2021:

Risk-free interest rate	0.63 – 1.15%
Expected dividend yield	0%
Expected term (in years)	5.52 – 10.0
Expected volatility	81.06 – 85.26%

No stock options were granted during the six months ended June 30, 2020. The performance conditions underlying the performance-based awards are not probable of achievement as of June 30, 2021, therefore no compensation expense has been recorded for these awards. As of June 30, 2021, total unrecognized compensation costs related to performance based awards was \$0.5 million. As of June 30, 2021, total unrecognized compensation cost related to unvested stock options, excluding performance based awards, was approximately \$12.1 million, which is expected to be recognized over a weighted-average period of 3.40 years.

During the six months ended June 30, 2021, the Company entered into separation agreements with two former employees. Pursuant to the separation agreements, the former employees terminated their employment with the Company and agreed to provide certain consulting services to the Company through October 15, 2021 and November 30, 2021, respectively, during which the former employees' equity awards will continue to vest. In addition, the Company extended the former employees' periods to exercise their vested option until 90 days from the termination of the respective consulting periods.

Because the services to be performed during the consulting period are considered non-substantive, the Company concluded that the former employees' equity awards were modified. As a result of these modifications, the Company recognized \$0.2 million in equity-based compensation expense in the statement of operations and comprehensive loss during the six months ended June 30, 2021.

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**8. Equity-Based Compensation (Continued)***Total Equity-Based Compensation Expense*

During the six months ended June 30, 2020 and 2021, the Company recorded compensation expense related to incentive units, stock options, and restricted common stock for employees and non-employees, which was allocated as follows in the consolidated statements of operations and comprehensive loss (in thousands):

	Six Months Ended June 30,	
	2020	2021
Research and development expense . . . . .	\$ 57	\$ 486
General and administrative expense . . . . .	190	1,310
<b>Total compensation expense . . . . .</b>	<b>\$ 247</b>	<b>\$ 1,796</b>

**9. Income Taxes**

The Company did not record a provision or benefit for income taxes during the six months ended June 30, 2020 and 2021. The Company continues to maintain a full valuation allowance against all of its deferred tax assets.

The Company has evaluated the positive and negative evidence involving its ability to realize its deferred tax assets and has considered its history of cumulative net losses incurred since inception and its lack of any commercially ready products. The Company has concluded that it is more likely than not that it will not realize the benefits of its deferred tax assets. The Company reevaluates the positive and negative evidence at each reporting period.

**10. Net Loss Per Share**

The following table sets forth the outstanding shares of common stock equivalents, presented based on amounts outstanding at each period end, that were excluded from the calculation of diluted net loss per share attributable to common stockholders for the periods indicated because including them would have been anti-dilutive:

	Six Months Ended June 30,	
	2020	2021
Convertible preferred stock . . . . .	7,030,359	18,398,248
Unvested restricted common stock . . . . .	363,570	168,328
Outstanding stock options . . . . .	—	3,275,172
Warrants . . . . .	2,631	2,631
<b>Total common stock equivalents . . . . .</b>	<b>7,396,560</b>	<b>21,844,379</b>

**11. Subsequent Events***Amendment to Loan and Security Agreement*

On September 17, 2021, the Company entered into an amendment to the loan and security agreement with PacWest (the "Amended Loan Agreement"), pursuant to which the Company borrowed \$10.0 million under a new term loan and used the proceeds of such new term loan to repay the outstanding balance on the prior term loan. In addition, as a result of the amendment, prior to December 31, 2022, the Company has the ability to request one or more additional term loans in an aggregate principal amount of \$10.0 million. Interest on amounts outstanding accrues at a variable annual rate equal to the greater of (i) the prime rate plus 0.25%

**XILIO THERAPEUTICS, INC.**  
**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Continued)**  
**(unaudited)**

**11. Subsequent Events (Continued)**

or (ii) 4.75%. As a result of the amendment, the Company is required to make interest-only payments on any outstanding balances through December 31, 2022. Subsequent to the interest-only period, the Company will be required to make equal monthly payments of principal plus interest until the loan matures on June 30, 2024. In addition, under the Amended Loan Agreement, the Company is obligated to pay a one-time fee between \$0.8 million to \$1.0 million to PacWest, depending on the timing and occurrence of specified events, including upon the closing of this offering. As a result of the amendment, the Company is also obligated to pay PacWest a fee of 1.0% of the aggregate principal amounts then outstanding if any term loans are repaid prior to September 17, 2022. The Amended Loan Agreement contains customary representations, warranties and covenants and also includes customary events of default, including payment defaults, breaches of covenants, a change of control and occurrence of a material adverse effect.

***Reverse Stock Split***

The Company's board of directors and stockholders approved an amendment to the Company's certificate of incorporation, which became effective on October 15, 2021. The amendment, among other things, effected a 1-for-9.5 reverse stock split of the Company's issued and outstanding common stock and eliminated the minimum price per share of common stock for an underwritten public offering that would result in the automatic conversion of the Company's outstanding convertible preferred stock. Accordingly, all common share and per share amounts in the consolidated financial statements and notes thereto have been retroactively adjusted for all periods presented to give effect to the reverse stock split, including reclassifying an amount equal to the reduction in par value of common stock to additional paid-in capital.

**7,353,000 Shares**



**Common Stock**

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**Prospectus**

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*Joint Book Running Managers*

**MORGAN STANLEY**

**COWEN**

**GUGGENHEIM SECURITIES**

*Lead Manager*

**RAYMOND JAMES**

, 2021

*Through and including* , 2021 (the 25th day after the date of this prospectus), all dealers effecting transactions in the Common Stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

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**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth the expenses to be incurred in connection with this offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by the registrant. All amounts are estimates except the Securities and Exchange Commission, or SEC, registration fee, the Financial Industry Regulatory Authority, Inc. filing fee and the Nasdaq Global Market initial listing fee.

	<u>Amount</u>
Securities and Exchange Commission registration fee	\$ 14,110
Financial Industry Regulatory Authority, Inc. filing fee	23,331
Nasdaq Global Market initial listing fee	150,000
Accountants' fees and expenses	1,000,000
Legal fees and expenses	2,775,000
Transfer agent's fees and expenses	3,500
Printing and engraving expenses	200,000
Miscellaneous	34,989
<b>Total expenses</b>	<b><u>\$4,200,930</u></b>

**Item 14. Indemnification of Directors and Officers.**

Section 102 of the Delaware General Corporation Law, or the DGCL, permits a corporation to eliminate the personal liability of its directors or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation that will be effective upon the closing of this offering provides that no director shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the DGCL prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnification for such expenses which the Court of Chancery or such other court shall deem proper.

Our amended and restated certificate of incorporation that will be effective upon the closing of this offering provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of us), by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership,

joint venture, trust or other enterprise (including any employee benefit plan) (all such persons being referred to as an Indemnitee), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), liabilities, losses, judgments, fines (including excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974) and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful.

Our certificate of incorporation that will be effective upon the closing of this offering also provides that we will indemnify any Indemnitee who was or is a party or threatened to be made a party to any threatened, pending or completed an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless and only to the extent, that the Court of Chancery of Delaware or the court in which such action or suit was brought determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses (including attorney's fees). Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we do not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

In addition, we intend to enter into new indemnification agreements with all of our executive officers and directors prior to the closing of this offering. In general, these agreements provide that we will indemnify the executive officer or director to the fullest extent permitted by law for claims arising in his or her capacity as an executive officer or director of our company or in connection with his or her service at our request for another corporation or entity. The indemnification agreements will also provide for procedures that will apply in the event that an executive officer or director makes a claim for indemnification and establish certain presumptions that are favorable to the executive officer or director.

We maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

The underwriting agreement we will enter into in connection with this offering of common stock being registered hereby provides that the underwriters will indemnify, under certain conditions, our directors and officers (as well as certain other persons) against certain liabilities arising in connection with such offering.

Insofar as the foregoing provisions permit indemnification of directors, executive officers or persons controlling us for liability arising under the Securities Act of 1933, as amended, or the Securities Act, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

#### **Item 15. Recent Sales of Unregistered Securities.**

Set forth below is information regarding shares of our common stock, shares of our convertible preferred stock and stock options granted by us within the past three years that were not registered under the Securities Act. Also included is the consideration, if any, received by us for such shares and options and information relating to the section of the Securities Act, or rule of the SEC, under which exemption from registration was claimed.

##### **(a) Issuance of Convertible Preferred Stock**

On January 23, 2018, we issued and sold 2,608,695 Series A-1 preferred units to one investor at a price per share of \$1.15 in cash, for an aggregate purchase price of \$3.0 million. On February 28, 2018, we issued and

sold 3,913,043 Series A-1 preferred units to one investor at price per share of \$1.15 in cash, for an aggregate purchase price of \$4.5 million. On December 5, 2018, we issued and sold 4,347,826 Series A-1 preferred units to two investors at a price per share of \$1.15 in cash, for an aggregate purchase price of \$5.0 million. On May 10, 2019, we issued and sold 8,695,652 Series A-1 preferred units to two investors at a price per share of \$1.15 in cash, for an aggregate purchase price of \$10.0 million. These Series A-1 preferred units, which were issued prior to the Reorganization, converted into Series A-1 convertible preferred stock in connection with the Reorganization. See “Prospectus Summary—Reorganization.”

On December 12, 2019, we issued and sold an aggregate of 23,913,036 Series B preferred units to 12 investors at a price per share of \$1.265 in cash, for an aggregate purchase price of \$30.2 million. On December 20, 2019, we issued and sold 7,905,138 Series B preferred units to two investors at a price per share of \$1.265 in cash, for an aggregate purchase price of \$10.0 million. On February 25, 2020, we issued and sold 7,905,138 Series B preferred units to two investors at a price per share of \$1.265 in cash, for an aggregate purchase price of \$10.0 million. These Series B preferred units, which were issued prior to the Reorganization, converted into Series B convertible preferred stock in connection with the Reorganization. See “Prospectus Summary—Reorganization.” On January 20, 2021, we issued and sold an additional 39,723,312 shares of Series B convertible preferred stock to 16 investors at a price per share of \$1.265 in cash, for an aggregate purchase price of \$50.2 million.

On February 23, 2021, we issued and sold 68,271,641 shares of our Series C convertible preferred stock to 17 investors at a price per share of \$1.3915 in cash, for an aggregate purchase price of \$95.0 million.

No underwriters were involved in the foregoing issuances of securities. The securities described in this section (a) of Item 15 were issued to investors in reliance upon the exemption from the registration requirements of the Securities Act, as set forth in Section 4(a)(2) under the Securities Act and, in certain cases, Regulation D thereunder, relative to transactions by an issuer not involving any public offering, to the extent an exemption from such registration was required. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were affixed to the securities issued in these transactions. Each of the purchasers in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act. All purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration statement or an available exemption from such registration.

**(b) Issuances of Common Stock**

On June 30, 2020, we issued an aggregate of 552,546 shares of restricted common stock for services rendered to employees, directors, and consultants in exchange for an aggregate of 1,080,858 incentive units previously issued to such employees, directors, and consultants. Also on June 30, 2020, we issued an aggregate of 409,303 shares of common stock in exchange for an aggregate of 409,303 common units previously issued to the holders of such common units. The incentive units and common units were exchanged for shares of restricted common stock and common stock, respectively, upon the consummation of the Reorganization. Between January 1, 2018 and June 30, 2020, the date of our corporate reorganization, we issued an aggregate of 1,043,228 incentive units. No additional incentive units or common units have been issued following the consummation of the Reorganization.

No underwriters were involved in the foregoing issuances of securities. The issuances of shares of common stock described in this section (b) of Item 15 were issued pursuant to written compensatory plans or arrangements with our employees, directors and consultants, in reliance on the exemption provided by Rule 701 promulgated under the Securities Act or pursuant to Section 4(a)(2) under the Securities Act. All recipients either received adequate information about our company or had access, through employment or other relationships, to such information.

**(c) Stock Option Grants and Option Exercises**

Between June 18, 2020, our date of incorporation, and October 18, 2021, we granted options to purchase an aggregate of 3,851,749 shares of common stock, with exercise prices ranging from \$5.51 to \$11.69 per share, to our employees, directors, advisors and consultants pursuant to our 2020 Stock Incentive Plan.

The stock options and the shares of common stock issued upon the exercise of stock options described in this section (b) of Item 15 were issued pursuant to written compensatory plans or arrangements with our employees, directors and consultants, in reliance on the exemption provided by Rule 701 promulgated under the Securities Act or pursuant to Section 4(a)(2) under the Securities Act. All recipients either received adequate information about our company or had access, through employment or other relationships, to such information.

**Item 16. Exhibits and Financial Statement Schedules.**

(a) *Exhibits*

Exhibit Number	Description of Exhibit
1.1	<a href="#">Form of Underwriting Agreement</a>
3.1	<a href="#">Amended and Restated Certificate of Incorporation of the Registrant, as amended</a>
3.2*	<a href="#">Bylaws of the Registrant</a>
3.3*	<a href="#">Form of Restated Certificate of Incorporation of the Registrant (to be effective upon the closing of this offering)</a>
3.4*	<a href="#">Form of Amended and Restated Bylaws of the Registrant (to be effective upon the closing of this offering)</a>
4.1*	<a href="#">Specimen Stock Certificate evidencing the shares of common stock</a>
5.1*	<a href="#">Opinion of Wilmer Cutler Pickering Hale and Dorr LLP</a>
10.1*	<a href="#">Amended and Restated Registration Rights Agreement, dated as of February 23, 2021, by and among the Registrant and the other parties thereto</a>
10.2*	<a href="#">2020 Stock Incentive Plan, as amended</a>
10.3*	<a href="#">Form of Stock Option Agreement under 2020 Stock Incentive Plan</a>
10.4*	<a href="#">Form of Restricted Stock Agreement under 2020 Stock Incentive Plan</a>
10.5	<a href="#">2021 Stock Incentive Plan</a>
10.6	<a href="#">Form of Stock Option Agreement under the 2021 Stock Incentive Plan</a>
10.7	<a href="#">Form of Non-Employee Director Stock Option Agreement under the 2021 Stock Incentive Plan</a>
10.8	<a href="#">2021 Employee Stock Purchase Plan</a>
10.9*	<a href="#">Director Compensation Policy</a>
10.10*	<a href="#">Loan and Security Agreement, dated as of November 21, 2019, as amended, by and between the Registrant and Pacific Western Bank</a>
10.11 <sup>†</sup> *	<a href="#">Cross-License Agreement, dated as of December 16, 2020, by and between the Registrant and AskGene Pharma, Inc.</a>
10.12 <sup>†</sup> *	<a href="#">Amended and Restated Exclusive License Agreement, dated as of August 16, 2016, by and between the Registrant and City of Hope</a>
10.13 <sup>†</sup> *	<a href="#">License Agreement, dated as of September 26, 2016, as amended, by and between the Registrant and WuXi Biologics (Hong Kong) Limited</a>
10.14*	<a href="#">Lease, dated as of August 26, 2019, as amended, by and between the Registrant and PPF off 828-830 Winter Street, LLC</a>
10.15*	<a href="#">Letter Agreement, dated September 30, 2021, by and between the Registrant and René Russo</a>
10.16*	<a href="#">Letter Agreement, dated May 24, 2019, by and between the Registrant and Joseph Farmer</a>
10.17*	<a href="#">Letter Agreement, dated September 30, 2021, by and between the Registrant and Martin Huber</a>
10.18*	<a href="#">Separation Agreement, dated March 12, 2021, by and between the Registrant and Joseph Farmer</a>
10.19	<a href="#">Service Agreement, dated June 11, 2020, as amended, by and between the Registrant and Daniel S. Lynch</a>

Exhibit Number	Description of Exhibit
10.20*	<a href="#">Form of Indemnification Agreement between the Registrant and each of its Executive Officers and Directors</a>
21.1*	<a href="#">Subsidiaries of the Registrant</a>
23.1	<a href="#">Consent of Ernst &amp; Young LLP, independent registered public accounting firm</a>
23.2	<a href="#">Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)</a>
24.1*	<a href="#">Power of Attorney (included on signature page)</a>

\* Previously filed.

† Portions of this exhibit have been omitted pursuant to Item 601(b)(10)(iv) of Regulation S-K.

(b) **Financial Statement Schedules**

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or the related notes.

**Item 17. Undertakings.**

(a) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(b) The undersigned registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, Commonwealth of Massachusetts, on this 18th day of October, 2021.

**XILIO THERAPEUTICS, INC.**

By: /s/ René Russo  
 René Russo, Pharm.D.  
 President and Chief Executive Officer

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to the Registration Statement has been signed by the following persons in the capacities held on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ René Russo</u> René Russo, Pharm.D.	President and Chief Executive Officer, Director (Principal Executive Officer)	October 18, 2021
<u>/s/ Salvatore Giovine</u> Salvatore Giovine	Chief Financial Officer (Principal Financial and Accounting Officer)	October 18, 2021
<u>*</u> Daniel S. Lynch	Chairman of the Board	October 18, 2021
<u>*</u> Sara M. Bonstein	Director	October 18, 2021
<u>*</u> Paul J. Clancy	Director	October 18, 2021
<u>*</u> Daniel Curran, M.D.	Director	October 18, 2021
<u>*</u> David Gardner	Director	October 18, 2021
<u>*</u> David Grayzel, M.D.	Director	October 18, 2021
<u>*</u> Andrew Hack, M.D., Ph.D.	Director	October 18, 2021

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<u>Signature</u>	<u>Title</u>	<u>Date</u>
* _____ Rachel Humphrey, M.D.	Director	October 18, 2021
* _____ Michael Ross, Ph.D.	Director	October 18, 2021
* _____ Christina Rossi	Director	October 18, 2021
*By: /s/ René Russo _____ René Russo, Pharm.D. Attorney-in-fact		

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[•] Shares

XILIO THERAPEUTICS, INC.  
COMMON STOCK, \$0.0001 PAR VALUE PER SHARE

UNDERWRITING AGREEMENT

[•], 2021

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Morgan Stanley & Co. LLC  
Cowen and Company, LLC  
Guggenheim Securities, LLC

c/o Morgan Stanley & Co. LLC  
1585 Broadway  
New York, NY 10036

c/o Cowen and Company, LLC  
599 Lexington Avenue  
New York, NY 10022

c/o Guggenheim Securities, LLC  
330 Madison Avenue  
New York, NY 10017

Ladies and Gentlemen:

Xilio Therapeutics, Inc., a Delaware corporation (the “**Company**”), proposes to issue and sell to the several Underwriters named in Schedule I hereto (the “**Underwriters**”) [•] shares of its common stock, \$0.0001 par value per share (the “**Firm Shares**”). The Company also proposes to issue and sell to the several Underwriters not more than an additional [•] shares of its common stock, \$0.0001 par value per share (the “**Additional Shares**”) if and to the extent that Morgan Stanley & Co. LLC (“**Morgan Stanley**”), Cowen and Company, LLC (“**Cowen**”) and Guggenheim Securities, LLC (together with Morgan Stanley and Cowen, the “**Representatives**”), as representatives of the offering, shall have determined to exercise, on behalf of the Underwriters, the right to purchase such shares of common stock granted to the Underwriters in Section 2 hereof. The Firm Shares and the Additional Shares are hereinafter collectively referred to as the “**Shares**.” The shares of common stock, \$0.0001 par value per share of the Company to be outstanding after giving effect to the sales contemplated hereby are hereinafter referred to as the “**Common Stock**.”

The Company has filed with the Securities and Exchange Commission (the “**Commission**”) a registration statement on Form S-1 (File No. 333-259973), including a preliminary prospectus, relating to the Shares. The registration statement as amended at the time it becomes effective, including the information (if any) deemed to be part of the registration statement at the time of effectiveness pursuant to Rule 430A under the Securities Act of 1933, as amended (the “**Securities Act**”), is hereinafter referred to as the “**Registration Statement**”; the prospectus in the form first used to confirm sales of the Shares (or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act) is hereinafter referred to as the “**Prospectus**.” If the Company has filed an abbreviated registration statement to register additional shares of Common Stock pursuant to Rule 462(b) under the Securities Act (a “**Rule 462 Registration Statement**”), then any reference herein to the term “**Registration Statement**” shall be deemed to include such Rule 462 Registration Statement.

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For purposes of this Agreement, “**free writing prospectus**” has the meaning set forth in Rule 405 under the Securities Act, “**preliminary prospectus**” shall mean each prospectus used prior to the effectiveness of the Registration Statement, and each prospectus that omitted information pursuant to Rule 430A under the Securities Act that was used after such effectiveness and prior to the execution and delivery of this Agreement, “**Time of Sale Prospectus**” means the preliminary prospectus contained in the Registration Statement at the time of its effectiveness together with the documents and pricing information set forth in Schedule II hereto, and “**broadly available road show**” means a “bona fide electronic road show” as defined in Rule 433(h)(5) under the Securities Act that has been made available without restriction to any person. As used herein, the terms “Registration Statement,” “preliminary prospectus,” “Time of Sale Prospectus” and “Prospectus” shall include the documents, if any, incorporated by reference therein as of the date hereof.

1. *Representations and Warranties.* The Company represents and warrants to and agrees with each of the Underwriters that:

(a) The Registration Statement has become effective; no stop order suspending the effectiveness of the Registration Statement is in effect, and no proceedings for such purpose or pursuant to Section 8A under the Securities Act are pending before or, to the Company’s knowledge, threatened by the Commission.

(b) (i) The Registration Statement, when it became effective, did not contain and, as amended or supplemented, if applicable, as of the date of such amendment or supplement, will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) the Registration Statement and the Prospectus comply and, as amended or supplemented, if applicable, as of the date of such amendment or supplement, will comply in all material respects with the Securities Act and the applicable rules and regulations of the Commission thereunder, (iii) the Time of Sale Prospectus does not, and at the time of each sale of the Shares in connection with the offering when the Prospectus is not yet available to prospective purchasers and at the Closing Date (as defined in Section 4), the Time of Sale Prospectus, as then amended or supplemented by the Company, if applicable, will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, (iv) each broadly available road show, if any, when considered together with the Time of Sale Prospectus, does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading and (v) the Prospectus does not contain and, as amended or supplemented, if applicable, as of the date of such amendment or supplement, will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, except that the representations and warranties set forth in this paragraph do not apply to statements or omissions in the Registration Statement, the Time of Sale Prospectus or the Prospectus based upon information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use therein.

(c) The Company is not an “ineligible issuer” in connection with the offering pursuant to Rules 164, 405 and 433 under the Securities Act. Any free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder. Except for the free writing prospectuses, if any, identified in Schedule II hereto, and electronic road shows, if any, each furnished to the Representatives before first use, the Company has not prepared, used or referred to, and will not, without the Representatives’ prior consent, prepare, use or refer to, any free writing prospectus.

(d) The Company has been duly incorporated, is validly existing as a corporation in good standing under the laws of the State of Delaware, has the corporate power and authority to own or lease its property and to conduct its business as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which the conduct of its business or its ownership or leasing of property requires such qualification, except to the extent that the failure to be so qualified or be in good standing would not reasonably be expected to, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(e) Each subsidiary of the Company has been duly incorporated, organized or formed, is validly existing as a corporation or other business entity in good standing under the laws of the jurisdiction of its incorporation, organization or formation, has the corporate or other business entity power and authority to own or lease its property and to conduct its business as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which the conduct of its business or its ownership or leasing of property requires such qualification, except to the extent that the failure to be so qualified or be in good standing would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole; all of the issued shares of capital stock or other equity interests of each subsidiary of the Company have been duly and validly authorized and issued, are fully paid and non-assessable and are owned directly or indirectly by the Company, free and clear of all liens, encumbrances, equities or claims.

- (f) This Agreement has been duly authorized, executed and delivered by the Company.
- (g) The authorized capital stock of the Company conforms in all material respects as to legal matters to the description thereof contained under the headings "Capitalization" and "Description of Capital Stock" in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus.
- (h) The shares of Common Stock outstanding prior to the issuance of the Shares have been duly authorized and are validly issued, fully paid and non-assessable.
- (i) The Shares have been duly authorized and, when issued, delivered and paid for in accordance with the terms of this Agreement, will be validly issued, fully paid and non-assessable, and the issuance of the Shares will not be subject to any preemptive or similar rights that have not been validly waived.
- (j) The execution and delivery by the Company of, and the performance by the Company of its obligations under, this Agreement will not contravene any provision of (i) applicable law, (ii) the amended and restated certificate of incorporation, as amended, or the bylaws of the Company, (iii) any agreement or other instrument binding upon the Company or any of its subsidiaries that is material to the Company and its subsidiaries, taken as a whole, or (iv) any judgment, order or decree of any governmental body, agency or court having jurisdiction over the Company or any subsidiary, except as would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, or on the power and ability of the Company to perform its obligations under this Agreement. No consent, approval, authorization or order of, or qualification with, any governmental body, agency or court is required for the performance by the Company of its obligations under this Agreement, except such as have already been obtained or made or as may be required by the securities or Blue Sky laws of the various states or the rules and regulations of the Financial Industry Regulatory Authority or the Nasdaq Global Market in connection with the offer and sale of the Shares.
- (k) There has not occurred any material adverse change, or any development that would reasonably be expected to result in a material adverse change, in the condition, financial or otherwise, or in the earnings, business, prospects or operations of the Company and its subsidiaries, taken as a whole, from that set forth in the Time of Sale Prospectus.

(l) There are no legal or governmental proceedings pending or, to the Company's knowledge, threatened to which the Company or any of its subsidiaries is a party or to which any of the properties of the Company or any of its subsidiaries is subject (i) other than proceedings described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus and proceedings that would not, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole, or on the power or ability of the Company to perform its obligations under this Agreement or to consummate the transactions contemplated by each of the Registration Statement, the Time of Sale Prospectus and the Prospectus or (ii) that are required to be described in the Registration Statement, the Time of Sale Prospectus or the Prospectus and are not so described in all material respects; and there are no contracts or other documents to which the Company or its subsidiaries are subject or bound that are required to be described in the Registration Statement, the Time of Sale Prospectus or the Prospectus or to be filed as exhibits to the Registration Statement that are not described in all material respects or filed as required.

(m) Each preliminary prospectus filed as part of the Registration Statement as originally filed or as part of any amendment thereto, or filed pursuant to Rule 424 under the Securities Act, complied when so filed in all material respects with the Securities Act and the applicable rules and regulations of the Commission thereunder.

(n) The Company is not, and immediately after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus will not be, required to register as an "investment company" as such term is defined in the Investment Company Act of 1940, as amended.

(o) The Company and each of its subsidiaries (i) are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("**Environmental Laws**"), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where such noncompliance with Environmental Laws, failure to receive required permits, licenses or other approvals or failure to comply with the terms and conditions of such permits, licenses or approvals would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(p) There are no costs or liabilities associated with Environmental Laws (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties) which would, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(q) There are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company or to require the Company to include such securities with the Shares registered pursuant to the Registration Statement, except those contracts, agreements and understandings described in the Time of Sale Prospectus and the Prospectus, all of which have been validly waived or complied with in connection with the issuance and sale of the Shares contemplated hereby.

(r) (i) None of the Company or any of its subsidiaries or controlled affiliates, or any director, officer or employee thereof, or, to the Company's knowledge, any agent or representative of the Company or of any of its subsidiaries or controlled affiliates, has taken or will take any action in furtherance of an offer, payment, promise to pay, or authorization or approval of the payment, giving or receipt of money, property, gifts or anything else of value, directly or indirectly, to any government official (including any officer or employee of a government or government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office) ("**Government Official**") in order to improperly influence official action, or to any person in violation of any applicable anti-corruption laws; (ii) the Company and each of its subsidiaries and controlled affiliates have conducted their businesses in compliance with applicable anti-corruption laws and instituted at the time of the offering and will maintain policies and procedures reasonably designed to promote and achieve compliance with such laws and with the representations and warranties contained herein; and (iii) neither the Company nor any of its subsidiaries will use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-corruption laws.

(s) The operations of the Company and each of its subsidiaries are and have been conducted at all times in material compliance with all applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable anti-money laundering statutes of jurisdictions where the Company and each of its subsidiaries conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency having jurisdiction over the Company or its subsidiaries (collectively, the "**Anti-Money Laundering Laws**"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(t) (i) None of the Company, any of its subsidiaries, or any director, officer, or employee thereof, or, to the Company's knowledge, any agent, affiliate or representative of the Company or any of its subsidiaries, is an individual or entity ("**Person**") that is, or is owned or controlled by one or more Persons that are:

(A) the subject of any sanctions administered or enforced by the U.S. Department of the Treasury's Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty's Treasury, or other relevant sanctions authority (collectively, "**Sanctions**"), or

(B) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Crimea, Cuba, Iran, North Korea and Syria).

(ii) The Company will not, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person:

(A) to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or

(B) in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise).

(iii) The Company and each of its subsidiaries have not knowingly engaged in, are not now knowingly engaged in, and will not knowingly engage in, any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(u) Subsequent to the respective dates as of which information is given in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, (i) the Company and its subsidiaries, taken as a whole, have not incurred any material liability or obligation, direct or contingent, nor entered into any material transaction; (ii) the Company has not purchased any of its outstanding capital stock (other than from its employees or other service providers in connection with the termination of the service pursuant to plans or agreements, as applicable, nor declared, paid or otherwise made any dividend or distribution of any kind on its capital stock other than ordinary and customary dividends; and (iii) there has not been any material change in the capital stock, short-term debt or long-term debt of the Company and its subsidiaries, taken as a whole, except in each case as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(v) The Company and each of its subsidiaries have good and marketable title to all real property owned by them and good and marketable title to all personal property owned by them, in each case, which is material to the business of the Company and its subsidiaries, and in each case, free and clear of all liens, encumbrances and defects, except such as are described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus or such as do not materially affect the value of such property and do not interfere in any material respect with the use made and proposed to be made of such property by the Company and its subsidiaries; and any real property and buildings held under lease by the Company and its subsidiaries are held by them, as applicable, under valid, subsisting and enforceable leases with such exceptions as are not material and do not interfere in any material respect with the use made and proposed to be made of such property and buildings by the Company and its subsidiaries.

(w) (i) The Company and its subsidiaries own or have a valid license to all pending patent applications and issued patents, inventions, copyrights, know how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, service marks and trade names (collectively, "**Intellectual Property Rights**") used in or reasonably necessary to the conduct of their businesses in the manner described in the Time of Sale Prospectus; (ii) the Intellectual Property Rights owned by the Company and its subsidiaries and, to the Company's knowledge, the Intellectual Property Rights licensed to the Company and its subsidiaries, are valid, subsisting and enforceable, and there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others challenging the validity, scope or enforceability of any such Intellectual Property Rights; (iii) neither the Company nor any of its subsidiaries has received any notice alleging any infringement, misappropriation or other violation of Intellectual Property Rights which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a material adverse effect on the Company and its subsidiaries, taken as a whole, and, to the Company's knowledge, none of the licensors, in relation to the Intellectual Property Rights licensed to the Company and its subsidiaries, have received any notice alleging any infringement, misappropriation or other violation of Intellectual Property Rights licensed to the Company and its subsidiaries which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a material adverse effect on the Company and its subsidiaries, taken as a whole; (iv) to the Company's knowledge, no third party is infringing, misappropriating or otherwise violating, or has infringed, misappropriated or otherwise violated, any Intellectual Property Rights owned by the Company or any of its subsidiaries, and any Intellectual Property Rights licensed to the Company and its subsidiaries, that would materially adversely affect the Company and its subsidiaries, taken as a whole; (v) neither the Company nor any of its subsidiaries infringes, misappropriates or otherwise violates, or has infringed, misappropriated or otherwise violated, any Intellectual Property Rights of a third party in any material respect; (vi) all employees or contractors engaged in the development of material Intellectual Property Rights on behalf of the Company or any subsidiary of the Company have executed an invention assignment agreement whereby such employees or contractors presently assign all of their right, title and interest in and to such Intellectual Property Rights to the Company or the applicable subsidiary, and to the Company's knowledge no such agreement has been breached or violated; (vii) the Company and its subsidiaries use, and have used, commercially reasonable efforts to appropriately maintain all information intended to be maintained as a trade secret; and (viii) all employees or contractors engaged in the development of material trade secrets on behalf of the Company or any subsidiary of the Company have executed a confidentiality agreement with the Company or any subsidiary of the Company.



(x) (i) The Company and its subsidiaries use and have used any and all software and other materials distributed under a “free,” “open source,” or similar licensing model (including but not limited to the MIT License, Apache License, GNU General Public License, GNU Lesser General Public License and GNU Affero General Public License) (“**Open Source Software**”) in compliance with all license terms applicable to such Open Source Software; and (ii) neither the Company nor any of its subsidiaries uses or distributes or has used or distributed any Open Source Software in any manner that requires or has required (A) the Company or any of its subsidiaries to permit reverse engineering of any software code or other technology owned by the Company or any of its subsidiaries or (B) any software code or other technology owned by the Company or any of its subsidiaries to be (1) disclosed or distributed in source code form, (2) licensed for the purpose of making derivative works or (3) redistributed at no charge.

(y) (i) The Company and each of its subsidiaries have complied and are presently in material compliance with all internal and external privacy policies, contractual obligations, industry standards, applicable laws, statutes, judgments, orders, rules and regulations of any court or arbitrator or other governmental or regulatory authority with jurisdiction over the Company, in each case, relating to the collection, use, transfer, import, export, storage, protection, disposal and disclosure by the Company or any of its subsidiaries of personal, personally identifiable, household, sensitive, confidential or regulated data (“**Data Security Obligations**”, and such data, “**Data**”); (ii) the Company has not received any notification of or complaint regarding and is unaware of any other facts that, singly or in the aggregate, would reasonably indicate material non-compliance with any Data Security Obligation; and (iii) there is no action, suit or proceeding by or before any court or governmental agency, authority or body pending or, to the Company’s knowledge, threatened alleging material non-compliance with any Data Security Obligation.

(z) The Company and each of its subsidiaries have taken reasonable technical, physical and organizational measures to protect the information technology systems and Data used in connection with the operation of the Company’s and its subsidiaries’ businesses. Without limiting the foregoing, the Company and its subsidiaries have used reasonable efforts to establish and maintain, and have established, maintained, implemented and complied with, reasonable information technology, information security, cyber security and data protection controls, policies and procedures, including oversight, access controls, technological and physical safeguards and business continuity/disaster recovery and security plans that are designed to protect against and prevent breach, destruction, loss, unauthorized distribution, use, access, disablement, misappropriation or modification, or other compromise or misuse of or relating to any information technology system or Data used in connection with the operation of the Company’s and its subsidiaries’ businesses (“**Breach**”). To the Company’s knowledge, there has been no such Breach, and the Company and its subsidiaries have no knowledge of any event or condition that would reasonably be expected to result in any such Breach.

(aa) No material labor dispute with the employees of the Company or any of its subsidiaries exists, or, to the knowledge of the Company, is imminent; and the Company is not aware of any existing, threatened or imminent labor disturbance by the employees of any of its principal suppliers, manufacturers or contractors that could, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(bb) The Company and each of its subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as, in the Company's reasonable judgment, are prudent and customary in the businesses in which they are engaged; neither the Company nor any of its subsidiaries has been refused any insurance coverage sought or applied for; and neither the Company nor any of its subsidiaries has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not reasonably be expected to, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(cc) The Company has operated at all times and is currently in compliance in all material respects with all applicable statutes, rules and regulations of the U.S. Food and Drug Administration (the "FDA"), and applicable foreign regulatory authorities, including the European Medicines Agency and the UK Medicines & Healthcare products Regulatory Agency (collectively, the "Regulatory Authorities"), except where failure to be in compliance would not be expected reasonably to have a material adverse effect on the Company and its subsidiaries, taken as a whole. For purposes of this Agreement, "Health Care Laws" means:

(i) the Federal Food, Drug, and Cosmetic Act and the regulations promulgated thereunder;

(ii) all applicable federal, state, local and foreign health care laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil Monetary Penalties Law (42 U.S.C. § 1320a-7a), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), all applicable federal, state, local and all foreign criminal laws relating to health care fraud and abuse, including but not limited to the U.S. False Statements Law (42 U.S.C. Section 1320a-7b(a)), 18 U.S.C. Sections 286 and 287, and the health care fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 ("HIPAA") (42 U.S.C. Section 1320d et seq.), the U.S. Physician Payments Sunshine Act (42 U.S.C. Section 1320a-7h), the exclusions law, the statutes and regulations of applicable government funded or sponsored healthcare programs, and the regulations promulgated pursuant to such statutes;

(iii) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.), and the regulations promulgated thereunder and any state or non-U.S. counterpart thereof to which the Company is subject, the purpose of which is to protect the privacy of individuals or prescribers;

(iv) the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, the regulations promulgated thereunder;

(v) all other local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company and the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product under development, manufactured or distributed by the Company.

(dd) (i) the preclinical studies, research tests and clinical trials conducted by or on behalf of or sponsored by the Company or in which the Company has participated that are described or referred to in the Registration Statement and the Time of Sale Prospectus, were, and if still pending are, being conducted in all material respects in accordance with standard medical and experimental protocols, procedures and controls pursuant to all applicable Health Care Laws, the rules and regulations of the Regulatory Authorities and current Good Clinical Practices and Good Laboratory Practices; (ii) the descriptions of the results of such studies and trials contained in the Registration Statement, the Time of Sale Prospectus or the Prospectus are accurate in all material respects and fairly present the data derived from such trials and studies; (iii) the Company has no knowledge of any other preclinical studies, research tests or clinical trials not described in the Registration Statement, the Time of Sale Prospectus and the Prospectus, the results of which are materially inconsistent with or call into question in any material respect the results described or referred to in the Registration Statement, the Time of Sale Prospectus and the Prospectus; (iv) the Company has provided the Underwriters with all substantive and material written notices, correspondence and summaries of all other communications provided to the Company or its subsidiaries from the Regulatory Authorities; and (v) the Company has not received any written and material notices, correspondence or other communications from any Regulatory Authority requiring or threatening the termination, material modification or suspension of any studies or trials that are described in the Registration Statement, the Time of Sale Prospectus and the Prospectus or the results of which are referred to in the Registration Statement, the Time of Sale Prospectus and the Prospectus, and, to the Company's knowledge, there are no reasonable grounds for the same.

(ee) (i) Except as would not, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole, the Company has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and, all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were timely, complete, accurate and not misleading in all material respects on the date filed (or were corrected or supplemented by a subsequent submission); (ii) the Company has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or Regulatory Authority or other governmental entity alleging that the Company is in material violation of any Health Care Laws, including, without limitation, any FDA Form 483, notice of adverse finding, warning letter, untitled letter from the FDA or any other Regulatory Authority or governmental entity, nor, to the Company's knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened; (iii) the Company is not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any Regulatory Authority or other governmental entity; and (iv) neither the Company nor any of its employees, officers or directors has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to an inquiry, investigation, proceeding or other similar action by a Regulatory Authority or other governmental entity that could reasonably be expected to result in debarment, suspension, or exclusion.

(ff) The Company and its subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state or foreign regulatory authorities necessary to conduct their respective businesses, including, without limitation, from the Regulatory Authorities, and neither the Company nor any of its subsidiaries has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a material adverse effect on the Company and its subsidiaries, taken as a whole, except as described in the Time of Sale Prospectus.

(gg) Except as would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, (i) each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), that is sponsored, maintained, administered or contributed to by the Company has been maintained in material compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) neither the Company nor any member of its "Controlled Group" (defined as any trade or business, whether or not incorporated, that would be regarded as a single employer with the Company under Section 414 of the Code) (x) has ever sponsored, maintained, contributed to or has had any obligation to contribute to, any employee benefit plan that is subject to Title IV of ERISA or any "multiemployer plan" as defined in Section 3(37) of ERISA or (y) has incurred, or reasonably expects to incur, any liability under Title IV of ERISA.

(hh) The financial statements included in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, together with the related notes thereto, comply as to form in all material respects with the applicable accounting requirements of the Securities Act and present fairly the consolidated financial position of the Company and its subsidiaries as of the dates shown and its results of operations and comprehensive loss, statements of convertible preferred units and convertible preferred stock and members' and stockholders' deficit and cash flows for the periods shown, and such financial statements have been prepared in conformity with generally accepted accounting principles in the United States ("U.S. GAAP") applied on a consistent basis throughout the periods covered thereby, except for any normal year-end adjustments in the Company's quarterly financial statements. The other financial information included in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus has been derived from the accounting records of the Company and its consolidated subsidiaries and presents fairly in all material respects the information shown thereby. The statistical, industry-related and market-related data included in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus are based on or derived from sources which the Company reasonably and in good faith believes are reliable and accurate and such data is consistent with the sources from which they are derived, in each case in all material respects.

(ii) Ernst & Young LLP, who have certified certain financial statements of the Company and its subsidiaries and delivered its report with respect to the audited consolidated financial statements and notes thereto, filed with the Commission as part of the Registration Statement and included in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is an independent registered public accounting firm with respect to the Company within the meaning of the Securities Act and the applicable rules and regulations thereunder adopted by the Commission and the Public Company Accounting Oversight Board (United States).

(jj) The Company and each of its subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Since the end of the Company's most recent audited fiscal year, there has been (i) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (ii) no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(kk) The Company has not sold, issued or distributed any shares of Common Stock during the six-month period preceding the date hereof, including any sales pursuant to Rule 144A under, or Regulation D or S of, the Securities Act, other than shares issued pursuant to employee benefit plans, qualified stock option plans or other employee compensation plans or pursuant to outstanding options, rights or warrants.

(ll) The Company and each of its subsidiaries have filed all federal, state, local and foreign tax returns required to be filed through the date of this Agreement or have requested extensions thereof (except where the failure to file would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole) and have paid all taxes required to be paid thereon (except for cases in which the failure to file or pay would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, or, except as currently being contested in good faith and for which reserves required by U.S. GAAP have been created in the financial statements of the Company), and no tax deficiency has been determined adversely to the Company or any of its subsidiaries which, singly or in the aggregate, has had (nor does the Company nor any of its subsidiaries have any notice or knowledge of any tax deficiency which could reasonably be expected to be determined adversely to the Company or its subsidiaries and which could reasonably be expected to have) a material adverse effect on the Company and its subsidiaries, taken as a whole.

(mm) From the time of initial confidential submission of the Registration Statement to the Commission through the date hereof, the Company has been and is an "emerging growth company," as defined in Section 2(a) of the Securities Act (an "**Emerging Growth Company**").

(nn) The Company (i) has not alone engaged in any Testing-the-Waters Communication with any person other than Testing-the-Waters Communications with the consent of the Representatives with entities that are reasonably believed to be qualified institutional buyers within the meaning of Rule 144A under the Securities Act or institutions that are reasonably believed to be accredited investors within the meaning of Rule 501 under the Securities Act and (ii) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications. The Company has not distributed any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Securities Act other than those listed on Schedule III hereto. “**Testing-the-Waters Communication**” means any communication with potential investors undertaken in reliance on Section 5(d) or Rule 163B of the Securities Act.

(oo) As of the time of each sale of the Shares in connection with the offering when the Prospectus is not yet available to prospective purchasers, none of (A) the Time of Sale Prospectus, (B) any free writing prospectus, when considered together with the Time of Sale Prospectus, and (C) any individual Testing-the-Waters Communication, when considered together with the Time of Sale Prospectus, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(pp) There are (and prior to the Closing Date, will be) no debt securities, convertible securities or preferred stock issued or guaranteed by the Company that are rated by a “nationally recognized statistical rating organization”, as such term is defined in Section 3(a)(62) under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”).

2. *Agreements to Sell and Purchase.* The Company hereby agrees to sell to the several Underwriters, and each Underwriter, upon the basis of the representations and warranties herein contained, but subject to the terms and conditions hereinafter stated, agrees, severally and not jointly, to purchase from the Company the respective numbers of Firm Shares set forth in Schedule I hereto opposite its name at \$[•] a share (the “**Purchase Price**”).

On the basis of the representations and warranties contained in this Agreement, and subject to its terms and conditions, the Company agrees to sell to the Underwriters the Additional Shares, and the Underwriters shall have the right to purchase, severally and not jointly, up to [•] Additional Shares at the Purchase Price, provided, however, that the amount paid by the Underwriters for any Additional Shares shall be reduced by an amount per share equal to any dividends declared by the Company and payable on the Firm Shares but not payable on such Additional Shares. The Representatives may exercise this right on behalf of the Underwriters in whole or from time to time in part by giving written notice not later than 30 days after the date of this Agreement. Any exercise notice shall specify the number of Additional Shares to be purchased by the Underwriters and the date on which such shares are to be purchased. Each purchase date must be at least one business day after the written notice is given and may not be earlier than the closing date for the Firm Shares or later than ten business days after the date of such notice. Additional Shares may be purchased as provided in Section 4 hereof solely for the purpose of covering over-allotments made in connection with the offering of the Firm Shares. On each day, if any, that Additional Shares are to be purchased (an “**Option Closing Date**”), each Underwriter agrees, severally and not jointly, to purchase the number of Additional Shares (subject to such adjustments to eliminate fractional shares as the Representatives may determine) that bears the same proportion to the total number of Additional Shares to be purchased on such Option Closing Date as the number of Firm Shares set forth in Schedule I hereto opposite the name of such Underwriter bears to the total number of Firm Shares.

3. *Terms of Public Offering.* The Company is advised by the Representatives that the Underwriters propose to make a public offering of their respective portions of the Shares as soon after the Registration Statement and this Agreement have become effective as in the Representatives’ judgment is advisable. The Company is further advised by the Representatives that the Shares are to be offered to the public initially at \$[•] a share (the “**Public Offering Price**”) and to certain dealers selected by the Representatives at a price that represents a concession not in excess of \$[•] a share under the Public Offering Price, and that any Underwriter may allow, and such dealers may reallow, a concession, not in excess of \$[•] a share, to any Underwriter or to certain other dealers.

4. *Payment and Delivery.* Payment for the Firm Shares shall be made to the Company in Federal or other funds immediately available in New York City against delivery of such Firm Shares for the respective accounts of the several Underwriters at 10:00 a.m., New York City time, on [•], 2021, or at such other time on the same or such other date, not later than [•], 2021, as shall be designated in writing by the Representatives. The time and date of such payment are hereinafter referred to as the “**Closing Date.**”

Payment for any Additional Shares shall be made to the Company in Federal or other funds immediately available in New York City against delivery of such Additional Shares for the respective accounts of the several Underwriters at 10:00 a.m., New York City time, on the date specified in the corresponding notice described in Section 2 or at such other time on the same or on such other date, in any event not later than [•], 2021, as shall be designated in writing by the Representatives.

The Firm Shares and Additional Shares shall be registered in such names and in such denominations as the Representatives shall request not later than one full business day prior to the Closing Date or the applicable Option Closing Date, as the case may be. The Firm Shares and Additional Shares shall be delivered to the Representatives on the Closing Date or an Option Closing Date, as the case may be, for the respective accounts of the several Underwriters, with any transfer taxes payable in connection with the transfer of the Shares to the Underwriters duly paid, against payment of the Purchase Price therefor.



5. *Conditions to the Underwriters' Obligations.* The obligations of the Company to sell the Shares to the Underwriters and the several obligations of the Underwriters to purchase and pay for the Shares on the Closing Date are subject to the condition that the Registration Statement shall have become effective not later than [4:00 p.m.] (New York City time) on the date hereof.

The several obligations of the Underwriters are subject to the following further conditions:

(a) Subsequent to the execution and delivery of this Agreement and prior to the Closing Date:

(i) no order suspending the effectiveness of the Registration Statement shall be in effect, and no proceeding for such purpose or pursuant to Section 8A under the Securities Act shall be pending before or threatened by the Commission; and

(ii) there shall not have occurred any change in the condition, financial or otherwise, or in the earnings, business or operations of the Company and its subsidiaries, taken as a whole, from that set forth in the Time of Sale Prospectus that, in the Representatives' judgment, is material and adverse and that makes it, in the Representatives' judgment, impracticable to market the Shares on the terms and in the manner contemplated in the Time of Sale Prospectus.

(b) The Underwriters shall have received on the Closing Date a certificate, dated the Closing Date and signed by an executive officer of the Company on behalf of the Company, to the effect set forth in Sections 5(a)(i) and 5(a)(ii) above and to the effect that the representations and warranties of the Company contained in this Agreement are true and correct as of the Closing Date and that the Company has complied with all of the agreements and satisfied all of the conditions on its part to be performed or satisfied hereunder on or before the Closing Date.

The executive officer signing and delivering such certificate on behalf of the Company may rely upon his or her knowledge as to proceedings threatened.

(c) The Underwriters shall have received on the Closing Date an opinion and negative assurance letter of Wilmer Cutler Pickering Hale and Dorr LLP, outside counsel for the Company, in form and substance reasonably satisfactory to the Representatives.

(d) The Underwriters shall have received on the Closing Date an opinion of Proskauer Rose LLP, outside intellectual property counsel for the Company, dated the Closing Date, in form and substance reasonably satisfactory to the Representatives.

(e) The Underwriters shall have received on the Closing Date an opinion and negative assurance letter of Cooley LLP, counsel for the Underwriters, dated the Closing Date, covering the matters referred to in Sections 5(c)(vi), 5(c)(vii), 5(c)(ix) (but only as to the statements in each of the Time of Sale Prospectus and the Prospectus under “Description of Capital Stock” and “Underwriters”) and 5(c)(xii) above.

With respect to the negative assurance letters to be delivered pursuant to Sections 5(c) and 5(e) above, Wilmer Cutler Pickering Hale and Dorr LLP and Cooley LLP may state that their opinions and beliefs are based upon their participation in the preparation of the Registration Statement, the Time of Sale Prospectus and the Prospectus and any amendments or supplements thereto and review and discussion of the contents thereof, but are without independent check or verification, except as specified.

The opinions of Wilmer Cutler Pickering Hale and Dorr LLP, Proskauer Rose LLP and Cooley LLP described in Sections 5(c), 5(d) and 5(e) above shall be rendered to the Underwriters at the request of the Company and shall so state therein.

(a) The Underwriters shall have received, on each of the date hereof and the Closing Date, a letter dated the date hereof or the Closing Date, as the case may be, in form and substance reasonably satisfactory to the Underwriters, from Ernst & Young LLP, independent public accountants, containing statements and information of the type ordinarily included in accountants’ “comfort letters” to underwriters with respect to the financial statements and certain financial information contained in the Registration Statement, the Time of Sale Prospectus and the Prospectus; provided that the letter delivered on the Closing Date shall use a “cut-off date” not earlier than the date hereof.

(b) The “lock-up” agreements, each substantially in the form of Exhibit A hereto, between the Representatives and certain stockholders, officers and directors of the Company relating to restrictions on sales and certain other dispositions of shares of Common Stock or certain other securities, delivered to the Representatives on or before the date hereof (the “**Lock-up Agreements**”), shall be in full force and effect on the Closing Date.

(c) The several obligations of the Underwriters to purchase Additional Shares hereunder are subject to the delivery to the Representatives on the applicable Option Closing Date of the following:

(i) a certificate, dated the Option Closing Date and signed by an executive officer of the Company on behalf of the Company, confirming that the certificate delivered on the Closing Date pursuant to Section 5(b) hereof remains true and correct as of such Option Closing Date;

(ii) an opinion and negative assurance letter of Wilmer Cutler Pickering Hale and Dorr LLP, outside counsel for the Company, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 5(c) hereof;

(iii) an opinion of Proskauer Rose LLP, outside intellectual property counsel for the Company, dated the Option Closing Date, substantially in the same form and substance as the opinion required by Section 5(d) hereof.

(iv) an opinion and negative assurance letter of Cooley LLP, counsel for the Underwriters, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 5(e) hereof;

(v) a letter dated the Option Closing Date, in form and substance reasonably satisfactory to the Underwriters, from Ernst & Young LLP, independent public accountants, substantially in the same form and substance as the letter furnished to the Underwriters pursuant to Section 5(g) hereof; *provided* that the letter delivered on the Option Closing Date shall use a "cut-off date" not earlier than two business days prior to such Option Closing Date; and

(vi) such other documents as the Representatives may reasonably request with respect to the good standing of the Company, the due authorization and issuance of the Additional Shares to be sold on such Option Closing Date and other matters related to the issuance of such Additional Shares.

6. *Covenants of the Company.* The Company covenants with each Underwriter as follows:

(a) To furnish to the Representatives, without charge, three signed copies of the Registration Statement (including exhibits thereto) and for delivery to each other Underwriter a conformed copy of the Registration Statement (without exhibits thereto) and to furnish to the Representatives in New York City, without charge, prior to 10:00 a.m. New York City time on the business day next succeeding the date of this Agreement and during the period mentioned in Section 6(e) or 6(f) below, as many copies of the Time of Sale Prospectus, the Prospectus and any supplements and amendments thereto or to the Registration Statement as the Representatives may reasonably request.

(b) Before amending or supplementing the Registration Statement, the Time of Sale Prospectus or the Prospectus, to furnish to the Representatives a copy of each such proposed amendment or supplement and not to file any such proposed amendment or supplement to which the Representatives reasonably object in a timely manner, and to file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(c) To furnish to the Representatives a copy of each proposed free writing prospectus to be prepared by or on behalf of, used by, or referred to by the Company and not to use or refer to any proposed free writing prospectus to which the Representatives reasonably object.

(d) Not to take any action that would result in an Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of the Underwriter that the Underwriter otherwise would not have been required to file thereunder.

(e) If the Time of Sale Prospectus is being used to solicit offers to buy the Shares at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement then on file, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable law, forthwith to prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not, in the light of the circumstances when the Time of Sale Prospectus is delivered to a prospective purchaser, be misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable law.

(f) If, during such period after the first date of the public offering of the Shares as in the opinion of counsel for the Underwriters, the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is required by law to be delivered in connection with sales by an Underwriter or dealer, any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus in order to make the statements therein, in the light of the circumstances when the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is delivered to a purchaser, not misleading, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Prospectus to comply with applicable law, forthwith to prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to the dealers (whose names and addresses the Representatives will furnish to the Company) to which Shares may have been sold by the Representatives on behalf of the Underwriters and to any other dealers upon request, either amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not, in the light of the circumstances when the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is delivered to a purchaser, be misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law.

(g) If required by applicable law, to endeavor to qualify the Shares for offer and sale under the securities or Blue Sky laws of such jurisdictions as the Representatives shall reasonably request; provided, however, that nothing contained herein shall require the Company to do business in any jurisdiction, to execute a general consent of service of process in any jurisdiction or to subject itself to taxation in any jurisdiction in which it is not otherwise subject.

(h) To make generally available to the Company's security holders and to the Representatives as soon as reasonably practicable an earnings statement covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the date of this Agreement which shall satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder; provided however, that the Company will be deemed to have furnished such statement to its security holders to the extent it is filed on the Commission's Electronic Data Gathering, Analysis and Retrieval System.

(i) Whether or not the transactions contemplated in this Agreement are consummated or this Agreement is terminated, to pay or cause to be paid all expenses incident to the performance of its obligations under this Agreement, including: (i) the fees, disbursements and expenses of the Company's counsel and the Company's accountants in connection with the registration and delivery of the Shares under the Securities Act and all other fees or expenses in connection with the preparation and filing of the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, the Prospectus, any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company and amendments and supplements to any of the foregoing, including all printing costs associated therewith, and the mailing and delivering of copies thereof to the Underwriters and dealers, in the quantities hereinabove specified, (ii) all costs and expenses related to the transfer and delivery of the Shares to the Underwriters, including any transfer or other taxes payable thereon, (iii) the cost of printing or producing any Blue Sky memorandum in connection with the offer and sale of the Shares under state securities laws and all expenses in connection with the qualification of the Shares for offer and sale under state securities laws as provided in Section 6(g) hereof, including filing fees and the reasonable and documented fees and disbursements of counsel for the Underwriters in connection with such qualification and in connection with the Blue Sky memorandum (provided that the amount payable by the Company with respect to the fees and disbursements of counsel for the Underwriters pursuant to clause (iii) shall not exceed \$2,500 in the aggregate), (iv) all filing fees and the reasonable fees and disbursements of counsel to the Underwriters incurred in connection with the review and qualification of the offering of the Shares by the Financial Industry Regulatory Authority (provided that the amount payable by the Company with respect to the fees and disbursements of counsel for the Underwriters pursuant to clause (iv) shall not exceed \$35,000 in the aggregate), (v) all fees and expenses in connection with the preparation and filing of the registration statement on Form 8-A relating to Common Stock and all costs and expenses incident to listing the Shares on the Nasdaq Global Market, (vi) the cost of printing certificates representing the Shares, (vii) the costs and charges of any transfer agent, registrar or depository, (viii) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the offering of the Shares, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the representatives and officers of the Company and any such consultants, and 50% of the cost of any aircraft or other transportation chartered in connection with the road show (the remaining 50% of the cost of such aircraft to be paid by the Underwriters), if applicable, (ix) the document production charges and expenses associated with printing this Agreement and (x) all other costs and expenses incident to the performance of the obligations of the Company hereunder for which provision is not otherwise made in this Section. It is understood, however, that except as provided in this Section, Section 8 entitled "Indemnity and Contribution" and the last paragraph of Section 10 below, the Underwriters will pay all of their costs and expenses, including fees and disbursements of their counsel, stock transfer taxes payable on resale of any of the Shares by them and any advertising expenses connected with any offers they may make.

(j) The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Shares within the meaning of the Securities Act and (ii) completion of the Restricted Period (as defined in this Section 6).

(k) If at any time following the distribution of any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Securities Act there occurred or occurs an event or development as a result of which such Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

(l) The Company will deliver to each Underwriter (or its agent), on the date of execution of this Agreement, a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, together with copies of identifying documentation, and the Company undertakes to provide such additional supporting documentation as each Underwriter may reasonably request in connection with the verification of the foregoing certification.

The Company also covenants with each Underwriter that, without the prior written consent of Morgan Stanley and Cowen on behalf of the Underwriters, it will not, and will not publicly disclose an intention to, during the period ending 180 days after the date of the Prospectus (the "**Restricted Period**"), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of Common Stock, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, or (3) file any registration statement with the Commission relating to the offering of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock.

The restrictions contained in the preceding paragraph shall not apply to (A) the Shares to be sold hereunder, (B) the issuance by the Company of shares of Common Stock upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof as described in each of the Time of Sale Prospectus and Prospectus, (C) facilitating the establishment of a trading plan on behalf of a stockholder, officer or director of the Company pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock, *provided* that (i) such plan does not provide for the transfer of Common Stock during the Restricted Period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of Common Stock may be made under such plan during the Restricted Period, (D) the grant of any options to purchase shares of Common Stock or other awards granted under a stock incentive plan or stock purchase plan described in the Registration Statement, Time of Sale Prospectus and the Prospectus, and the issuance by the Company of shares of Common Stock upon the exercise thereof, *provided* that the Company shall cause each recipient of such grant to execute and deliver to the Representatives an agreement substantially in the form of Exhibit A hereto if such recipient has not already delivered one, (E) the filing by the Company of any registration statement on Form S-8 or a successor form thereto relating to the shares of Common Stock granted pursuant to or reserved for issuance under a stock incentive plan or stock purchase plan described in the Registration Statement, Time of Sale Prospectus and the Prospectus, or (F) shares of Common Stock or other securities issued in connection with a transaction with an unaffiliated third party that includes a debt financing or a bona fide commercial relationship (including joint ventures, marketing or distribution arrangements, collaboration agreements, or intellectual property license agreements) or any acquisition of assets or acquisition of not less than a majority or controlling portion of the equity of another entity, *provided* that (x) the aggregate number of shares issued pursuant to this clause (F) shall not exceed 5% of the total number of outstanding shares of Common Stock immediately following the issuance and sale of the Shares to be sold hereunder and (y) the recipient of any such shares of Common Stock and securities issued pursuant to this clause (F) during the 180-day restricted period described above shall enter into an agreement substantially in the form of Exhibit A hereto on or prior to such issuance.

If Morgan Stanley and Cowen, in their sole discretion, agree to release or waive the restrictions on the transfer of Shares set forth in a Lock-up Agreement for an officer or director of the Company and provides the Company with notice of the impending release or waiver at least three business days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit B hereto through a major news service at least two business days before the effective date of the release or waiver.

7. *Covenants of the Underwriters.* Each Underwriter, severally and not jointly, covenants with the Company not to take any action that would result in the Company being required to file with the Commission under Rule 433(d) a free writing prospectus prepared by or on behalf of such Underwriter that otherwise would not be required to be filed by the Company thereunder, but for the action of the Underwriter.

8. *Indemnity and Contribution.* (a) The Company agrees to indemnify and hold harmless each Underwriter, each person, if any, who controls any Underwriter within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act and each affiliate of any Underwriter within the meaning of Rule 405 under the Securities Act from and against any and all losses, claims, damages and liabilities (including, without limitation, any legal or other expenses reasonably incurred in connection with defending or investigating any such action or claim) that arise out of, or are based upon, any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or any amendment thereof, any preliminary prospectus, the Time of Sale Prospectus or any amendment or supplement thereto, any issuer free writing prospectus as defined in Rule 433(h) under the Securities Act, any Company information that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act, any road show as defined in Rule 433(h) under the Securities Act (a "road show"), the Prospectus or any amendment or supplement thereto, or any Testing-the-Waters Communication, or arise out of, or are based upon, any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as such losses, claims, damages or liabilities arise out of, or are based upon, any such untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use therein, it being understood and agreed that the only such information furnished by the Underwriters through the Representatives consists of the information described as such in paragraph (b) below.



(b) Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, its directors, its officers who sign the Registration Statement and each person, if any, who controls the Company within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act to the same extent as the foregoing indemnity from the Company to such Underwriter, but only with reference to information relating to such Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any issuer free writing prospectus, road show or the Prospectus or any amendment or supplement thereto.

(c) In case any proceeding (including any governmental investigation) shall be instituted involving any person in respect of which indemnity may be sought pursuant to Section 8(a) or 8(b), such person (the "**indemnified party**") shall promptly notify the person against whom such indemnity may be sought (the "**indemnifying party**") in writing and the indemnifying party, upon request of the indemnified party, shall retain counsel reasonably satisfactory to the indemnified party to represent the indemnified party and any others the indemnifying party may designate in such proceeding and shall pay the reasonably incurred and fees and disbursements of such counsel related to such proceeding. In any such proceeding, any indemnified party shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such indemnified party unless (i) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel or (ii) the named parties to any such proceeding (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them. It is understood that the indemnifying party shall not, in respect of the legal expenses of any indemnified party in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonably incurred fees and expenses of more than one separate firm (in addition to any local counsel) for all such indemnified parties and that all such reasonably incurred fees and expenses shall be reimbursed as they are incurred. Such firm shall be designated in writing by the Representatives, in the case of parties indemnified pursuant to Section 8(a), and by the Company, in the case of parties indemnified pursuant to Section 8(b). The indemnifying party shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party from and against any loss or liability by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by the second and third sentences of this paragraph, the indemnifying party agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement (x) includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such proceeding and (y) does not include a statement admitting fault, culpability or a failure to act, by or on behalf of any indemnified party.

(d) To the extent the indemnification provided for in Section 8(a) or 8(b) is unavailable to an indemnified party or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then each indemnifying party under such paragraph, in lieu of indemnifying such indemnified party thereunder, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other hand from the offering of the Shares or (ii) if the allocation provided by clause 8(d)(i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause 8(d)(i) above but also the relative fault of the Company on the one hand and of the Underwriters on the other hand in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other hand in connection with the offering of the Shares shall be deemed to be in the same respective proportions as the net proceeds from the offering of the Shares (before deducting expenses) received by the Company and the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover of the Prospectus, bear to the aggregate Public Offering Price of the Shares. The relative fault of the Company on the one hand and the Underwriters on the other hand shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Underwriters' respective obligations to contribute pursuant to this Section 8 are several in proportion to the respective number of Shares they have purchased hereunder, and not joint.

(e) The Company and the Underwriters agree that it would not be just or equitable if contribution pursuant to this Section 8 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in Section 8(d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages and liabilities referred to in Section 8(d) shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 8, no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The remedies provided for in this Section 8 are not exclusive and shall not limit any rights or remedies which may otherwise be available to any indemnified party at law or in equity.

(f) The indemnity and contribution provisions contained in this Section 8 and the representations, warranties and other statements of the Company contained in this Agreement shall remain operative and in full force and effect regardless of (i) any termination of this Agreement, (ii) any investigation made by or on behalf of any Underwriter, any person controlling any Underwriter or any affiliate of any Underwriter or by or on behalf of the Company, its officers or directors or any person controlling the Company and (iii) acceptance of and payment for any of the Shares.

9. *Termination.* The Underwriters may terminate this Agreement by notice given by the Representatives to the Company, if after the execution and delivery of this Agreement and prior to or on the Closing Date or any Option Closing Date, as the case may be, (i) trading generally shall have been suspended or materially limited on, or by, as the case may be, either the New York Stock Exchange or the Nasdaq Global Market, (ii) trading of any securities of the Company shall have been suspended on any exchange or in any over-the-counter market, (iii) a material disruption in securities settlement, payment or clearance services in the United States shall have occurred, (iv) any moratorium on commercial banking activities shall have been declared by Federal or New York State authorities or (v) there shall have occurred any outbreak or escalation of hostilities, or any change in financial markets or any calamity or crisis that, in the Representatives' judgment, is material and adverse and which, singly or together with any other event specified in this clause (v), makes it, in the Representatives' judgment, impracticable or inadvisable to proceed with the offer, sale or delivery of the Shares on the terms and in the manner contemplated in the Time of Sale Prospectus or the Prospectus.

10. *Effectiveness; Defaulting Underwriters.* This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

If, on the Closing Date or an Option Closing Date, as the case may be, any one or more of the Underwriters shall fail or refuse to purchase Shares that it has or they have agreed to purchase hereunder on such date, and the aggregate number of Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase is not more than one-tenth of the aggregate number of the Shares to be purchased on such date, the other Underwriters shall be obligated severally in the proportions that the number of Firm Shares set forth opposite their respective names in Schedule I bears to the aggregate number of Firm Shares set forth opposite the names of all such non-defaulting Underwriters, or in such other proportions as the Representatives may specify, to purchase the Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date; *provided* that in no event shall the number of Shares that any Underwriter has agreed to purchase pursuant to this Agreement be increased pursuant to this Section 10 by an amount in excess of one-ninth of such number of Shares without the written consent of such Underwriter. If, on the Closing Date, any Underwriter or Underwriters shall fail or refuse to purchase Firm Shares and the aggregate number of Firm Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Firm Shares to be purchased on such date, and arrangements satisfactory to the Representatives and the Company for the purchase of such Firm Shares are not made within 36 hours after such default, this Agreement shall terminate without liability on the part of any non-defaulting Underwriter or the Company. In any such case either the Representatives or the Company shall have the right to postpone the Closing Date, but in no event for longer than seven days, in order that the required changes, if any, in the Registration Statement, in the Time of Sale Prospectus, in the Prospectus or in any other documents or arrangements may be effected. If, on an Option Closing Date, any Underwriter or Underwriters shall fail or refuse to purchase Additional Shares and the aggregate number of Additional Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Additional Shares to be purchased on such Option Closing Date, the non-defaulting Underwriters shall have the option to (i) terminate their obligation hereunder to purchase the Additional Shares to be sold on such Option Closing Date or (ii) purchase not less than the number of Additional Shares that such non-defaulting Underwriters would have been obligated to purchase in the absence of such default. Any action taken under this paragraph shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

If this Agreement shall be terminated by the Underwriters, or any of them, because of any failure or refusal on the part of the Company to comply with the terms or to fulfill any of the conditions of this Agreement, or if for any reason the Company shall be unable to perform its obligations under this Agreement, other than by reason of a default by the Underwriters or following termination of this Agreement pursuant to clauses (i), (iii), (iv) or (v) of Section 9, the Company will reimburse the non-defaulting Underwriters or such Underwriters as have so terminated this Agreement with respect to themselves, severally, for all out-of-pocket expenses (including the reasonably incurred and documented fees and disbursements of their counsel) reasonably incurred and documented by such Underwriters in connection with this Agreement or the offering contemplated hereunder.

11. *Entire Agreement.* (a) This Agreement, together with any contemporaneous written agreements and any prior written agreements (to the extent not superseded by this Agreement) that relate to the offering of the Shares, represents the entire agreement between the Company and the Underwriters with respect to the preparation of any preliminary prospectus, the Time of Sale Prospectus, the Prospectus, the conduct of the offering, and the purchase and sale of the Shares.

(b) The Company acknowledges that in connection with the offering of the Shares: (i) the Underwriters have acted at arm's length, are not agents of, and owe no fiduciary duties to, the Company or any other person, (ii) the Underwriters owe the Company only those duties and obligations set forth in this Agreement, any contemporaneous written agreements and prior written agreements (to the extent not superseded by this Agreement), if any, (iii) the Underwriters may have interests that differ from those of the Company, and (iv) none of the activities of the Underwriters in connection with the transactions contemplated herein constitutes a recommendation, investment advice, or solicitation of any action by the Underwriters with respect to any entity or natural person. The Company waives to the full extent permitted by applicable law any claims it may have against the Underwriters arising from an alleged breach of fiduciary duty in connection with the offering of the Shares.

12. *Recognition of the U.S. Special Resolution Regimes.* (a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United State.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

For purposes of this Section a "**BHC Act Affiliate**" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k). "**Covered Entity**" means any of the following: (i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b). "**Default Right**" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable. "**U.S. Special Resolution Regime**" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

13. *Counterparts.* This Agreement may be signed in two or more counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., [www.docusign.com](http://www.docusign.com)) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

14. *Applicable Law.* This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York.

15. *Headings.* The headings of the sections of this Agreement have been inserted for convenience of reference only and shall not be deemed a part of this Agreement.

16. *Notices.* All communications hereunder shall be in writing and effective only upon receipt and if to the Underwriters shall be delivered, mailed or sent to Morgan Stanley in care of Morgan Stanley & Co. LLC, 1585 Broadway, New York, New York 10036, Attention: Equity Syndicate Desk, with a copy to the Legal Department; to Cowen in care of Cowen and Company, LLC, 599 Lexington Avenue, New York, New York 10022, Attention: Head of Equity Capital Markets; to Guggenheim Securities, LLC at 330 Madison Avenue, New York, New York 10017, Attention: Equity Capital Markets; and if to the Company shall be delivered, mailed or sent to Xilio Therapeutics, Inc., 828 Winter Street, Suite 300, Waltham, MA 02451, Attention: General Counsel.

[Remainder of page intentionally left blank]

Very truly yours,

Xilio Therapeutics, Inc.

By: \_\_\_\_\_  
Name:  
Title:

[Signature Page to Underwriting Agreement]

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Accepted as of the date hereof

Morgan Stanley & Co. LLC  
Cowen and Company, LLC  
Guggenheim Securities, LLC

Acting severally on behalf of themselves and the several Underwriters named in Schedule I hereto.

By: Morgan Stanley & Co. LLC

By: \_\_\_\_\_  
Name:  
Title:

By: Cowen and Company, LLC

By: \_\_\_\_\_  
Name:  
Title:

By: Guggenheim Securities, LLC

By: \_\_\_\_\_  
Name:  
Title:

[Signature Page to Underwriting Agreement]

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Underwriter	Number of Firm Shares To Be Purchased
Morgan Stanley & Co. LLC	
Cowen and Company, LLC	
Guggenheim Securities, LLC	
Raymond James & Associates, Inc.	
Total:	

**Time of Sale Prospectus**

1. Preliminary Prospectus issued [date]
2. [identify all free writing prospectuses filed by the Company under Rule 433(d) of the Securities Act]
3. [free writing prospectus containing a description of terms that does not reflect final terms, if the Time of Sale Prospectus does not include a final term sheet]
4. [orally communicated pricing information such as price per share and size of offering if a Rule 134 pricing term sheet is used at the time of sale instead of a pricing term sheet filed by the Company under Rule 433(d) as a free writing prospectus]

**Written Testing-the-Waters Communications**

September 2021 Corporate Presentation

October 2021 Corporate Presentation

## FORM OF LOCK-UP AGREEMENT

\_\_\_\_\_, 2021

Morgan Stanley & Co. LLC  
Cowen and Company, LLC  
Guggenheim Securities, LLC

c/o Morgan Stanley & Co. LLC  
1585 Broadway  
New York, NY 10036

c/o Cowen and Company, LLC  
599 Lexington Avenue  
New York, NY 10022

c/o Guggenheim Securities, LLC  
330 Madison Avenue  
New York, NY 10017

Ladies and Gentlemen:

The undersigned understands that Morgan Stanley & Co. LLC ("**Morgan Stanley**"), Cowen and Company, LLC ("**Cowen**") and Guggenheim Securities, LLC (together with Morgan Stanley and Cowen, the "**Representatives**") propose to enter into an Underwriting Agreement (the "**Underwriting Agreement**") with Xilio Therapeutics, Inc., a Delaware corporation (the "**Company**"), providing for the public offering (the "**Public Offering**") by the several Underwriters, including the Representatives (the "**Underwriters**"), of shares (the "**Shares**") of the common stock, \$0.0001 par value per share, of the Company (the "**Common Stock**").

To induce the Underwriters that may participate in the Public Offering to continue their efforts in connection with the Public Offering, the undersigned hereby agrees that, without the prior written consent of Morgan Stanley and Cowen on behalf of the Underwriters, it will not, and will not publicly disclose an intention to, during the period commencing on the date hereof and ending 180 days after the date of the final prospectus (the "**Restricted Period**") relating to the Public Offering (the "**Prospectus**"), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock beneficially owned (as such term is used in Rule 13d-3 of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**")), by the undersigned or any other securities so owned convertible into or exercisable or exchangeable for Common Stock, or (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Common Stock, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise. The foregoing sentence shall not apply to the following:

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(a) transactions relating to shares of Common Stock or other securities acquired in the Public Offering (other than any issuer-directed shares of Common Stock purchased in the Public Offering by an officer or director of the Company) or in open market transactions after the completion of the Public Offering, *provided* that no filing under Section 16(a) of the Exchange Act shall be required or shall be voluntarily made during the Restricted Period in connection with subsequent sales of Common Stock or other securities acquired in the Public Offering or such open market transactions;

(b) transfers of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock as a bona fide gift or gifts, or for bona fide estate planning purposes;

(c) transfers or dispositions of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock to any member of the immediate family of the undersigned or any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, or if the undersigned is a trust, to any beneficiary (including such beneficiary's estate) of the undersigned, in a transaction not involving a disposition for value;

(d) transfers or dispositions of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held by the undersigned or a member of the immediate family of the undersigned;

(e) transfers or dispositions of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock (i) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned upon the death of the undersigned or (ii) in connection with a divorce settlement or solely by operation of law, such as pursuant to a qualified domestic order or court order;

(f) if the undersigned is an entity, transfers or distributions of shares of Common Stock or any security convertible into Common Stock to general or limited partners, members or stockholders of the undersigned, its direct or indirect affiliates (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) or to an investment fund or other entity that controls or manages, or is under common control with, the undersigned;

*provided* that in the case of any transfer, disposition or distribution pursuant to clause (b), (c), (d), (e) or (f), (A) each transferee, donee or distributee shall sign and deliver a lock-up agreement substantially in the form of this agreement, and (B) no public announcement shall be made and no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of Common Stock, shall be required or shall be voluntarily made during the Restricted Period (other than, in the case of a transfer or other disposition pursuant to clause (b), (c) or (e) above, any Form 4 or Form 5 required to be filed under the Exchange Act if the undersigned is subject to Section 16 reporting with respect to the Company under the Exchange Act and indicating by footnote disclosure or otherwise the nature of the transfer or disposition);

(g) transfers or dispositions of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock to the Company pursuant to any contractual arrangement in effect on the date of this agreement and disclosed to the Underwriters that provides for the repurchase of the undersigned's Common Stock or other securities by the Company or in connection with the termination of the undersigned's employment with or service to the Company; *provided* that no filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of shares of Common Stock shall be required or shall be voluntarily made during the Restricted Period in connection with any such transfers or dispositions (other than any Form 4 or Form 5 required to be filed under the Exchange Act if the undersigned is subject to Section 16 reporting with respect to the Company under the Exchange Act and indicating by footnote disclosure or otherwise the nature of the transfer or disposition);

(h) the conversion of outstanding shares of preferred stock of the Company described in the Prospectus into shares of Common Stock as described in the Prospectus, provided that the shares of Common Stock received upon conversion shall be subject to the restrictions set forth herein;

(i) the exercise of stock options to purchase shares of Common Stock granted under any equity incentive plan described in the Prospectus and any related transfer to the Company of shares of Common Stock (including by way of "net" or "cashless" exercise solely to cover withholding tax obligations in connection with such exercise and any transfer to the Company for the payment of taxes as a result of such exercise); provided that any shares of Common Stock received upon exercise shall be subject to the restrictions on transfer set forth in this agreement; provided, further, that no filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of shares of Common Stock shall be required or shall be voluntarily made during the Restricted Period (other than a filing on a Form 4 that reports such disposition under the transaction code "F");

(j) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock, *provided* that (i) such plan does not provide for the transfer of Common Stock during the Restricted Period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by or on behalf of the undersigned or the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of Common Stock may be made under such plan during the Restricted Period; or

(k) (A) transfers of shares of Common Stock (or any securities convertible into or exercisable or exchangeable for Common Stock) pursuant to a bona fide third-party tender offer for shares of the Company's capital stock made to all holders of the Company's securities, merger, consolidation or other similar transaction approved by the Company's board of directors the result of which is that any person (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, other than the Company, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of more than 50% of the total voting power of the voting stock of the Company and (B) entry into any lock-up, voting or similar agreement pursuant to which the undersigned may agree to transfer, sell, tender or otherwise dispose of shares of Common Stock or such other securities in connection with a transaction described in (A) above; provided that in the event that such change of control transaction is not completed, the Common Stock (or any security convertible into or exercisable or exchangeable for Common Stock) owned by the undersigned shall remain subject to the restrictions contained in this agreement.

For purposes of this agreement, "immediate family" shall mean any relationship by blood, marriage, domestic partnership or adoption, not more remote than first cousin.

In addition, the undersigned agrees that, without the prior written consent of Morgan Stanley and Cowen on behalf of the Underwriters, it will not, during the Restricted Period, make any demand for or exercise any right with respect to, the registration of any shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock. The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of the undersigned's shares of Common Stock except in compliance with the foregoing restrictions.

If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing provisions shall be equally applicable to any issuer-directed Shares the undersigned may purchase in the Public Offering.

If the undersigned is an officer or director of the Company, (i) Morgan Stanley and Cowen agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of Common Stock, Morgan Stanley and Cowen will notify the Company of the impending release or waiver, and (ii) the Company will agree in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by Morgan Stanley and Cowen hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer not for consideration or to an immediate family member as defined in FINRA Rule 5130(i)(5) and (b) the transferee has agreed in writing to be bound by the same terms described in this agreement to the extent and for the duration that such terms remain in effect at the time of the transfer.

The undersigned understands that the Company and the Underwriters are relying upon this agreement in proceeding toward consummation of the Public Offering. The undersigned further understands that this agreement is irrevocable and shall be binding upon the undersigned's heirs, legal representatives, successors and assigns.

The undersigned acknowledges and agrees that the Underwriters have not provided any recommendation or investment advice nor have the Underwriters solicited any action from the undersigned with respect to the Public Offering of the Shares and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate. The undersigned further acknowledges and agrees that, although the Underwriters may provide certain Regulation Best Interest and Form CRS disclosures or other related documentation to you in connection with the Public Offering, the Underwriters are not making a recommendation to you to participate in the Public Offering or sell any Shares at the price determined in the Public Offering, and nothing set forth in such disclosures or documentation is intended to suggest that any Underwriter is making such a recommendation.

The undersigned acknowledges and agrees that the foregoing precludes the undersigned from engaging in any hedging or other transaction designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition of any shares of Common Stock, or any securities convertible into or exercisable or exchangeable for Common Stock, even if any such sale or disposition transaction or transactions would be made or executed by or on behalf of someone other than the undersigned.

Whether or not the Public Offering actually occurs depends on a number of factors, including market conditions. Any Public Offering will only be made pursuant to an Underwriting Agreement, the terms of which are subject to negotiation between the Company and the Underwriters.

This agreement shall be governed by and construed in accordance with the laws of the State of New York.

The undersigned understands that, if (i) the Representatives, on behalf of the Underwriters, on the one hand, or the Company, on the other hand, informs the other in writing, prior to the execution of the Underwriting Agreement, that it has determined not to proceed with the Public Offering, (ii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the securities to be sold thereunder, (iii) the registration statement related to the Public Offering has been withdrawn prior to the execution of the Underwriting Agreement or (iv) the Underwriting Agreement is not executed on or before November 30, 2021, then, in each case and upon the earliest to occur of the foregoing, this agreement shall automatically, and without any action on the part of any other party, be of no further force and effect, and the undersigned shall be automatically released from all obligations under this agreement.

[Remainder of page intentionally left blank]



Very truly yours,  
*[if an individual]:*

By: \_\_\_\_\_

Name: \_\_\_\_\_

*[if an entity]:*

Stockholder Name: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## FORM OF WAIVER OF LOCK-UP

\_\_\_\_\_, 20\_\_

[Name and Address of  
Officer or Director  
Requesting Waiver]

Dear Mr./Ms. [Name]:

This letter is being delivered to Morgan Stanley & Co. LLC ("**Morgan Stanley**") and Cowen and Company, LLC ("**Cowen**") in connection with the offering by Xilio Therapeutics, Inc. (the "**Company**") of \_\_\_\_\_ shares of common stock, \$0.0001 par value (the "**Common Stock**"), of the Company and the lock-up agreement dated \_\_\_\_\_, 20\_\_ (the "Lock-up Agreement"), executed by you in connection with such offering, and your request for a [waiver] [release] dated \_\_\_\_\_, 20\_\_, with respect to \_\_\_\_\_ shares of Common Stock (the "**Shares**").

Morgan Stanley and Cowen hereby agree to [waive] [release] the transfer restrictions set forth in the Lock-up Agreement, but only with respect to the Shares, effective \_\_\_\_\_, 20\_\_; provided, however, that such [waiver] [release] is conditioned on the Company announcing the impending [waiver] [release] by press release through a major news service at least two business days before effectiveness of such [waiver] [release]. This letter will serve as notice to the Company of the impending [waiver] [release].

Except as expressly [waived] [released] hereby, the Lock-up Agreement shall remain in full force and effect.

Very truly yours,

Morgan Stanley & Co. LLC  
Cowen and Company, LLC  
Acting severally on behalf of themselves and the several Underwriters named in Schedule I  
hereto

Morgan Stanley & Co. LLC

By: \_\_\_\_\_

Name:

Title:

Cowen and Company, LLC

By: \_\_\_\_\_

Name:

Title:

cc: Xilio Therapeutics, Inc.

**FORM OF PRESS RELEASE**

Xilio Therapeutics, Inc.  
[Date]

Xilio Therapeutics, Inc. (the "**Company**") announced today that Morgan Stanley & Co. LLC and Cowen and Company, LLC, the lead book-running managers in the Company's recent public sale of \_\_\_\_\_ shares of its common stock is [waiving][releasing] a lock-up restriction with respect to \_\_\_\_\_ shares of the Company's common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver][release] will take effect on \_\_\_\_\_, 20\_\_\_\_, and the shares may be sold on or after such date.

**This press release is not an offer for sale of the securities in the United States or in any other jurisdiction where such offer is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended.**

**AMENDED AND RESTATED  
CERTIFICATE OF INCORPORATION  
OF  
XILIO THERAPEUTICS, INC.**

(Pursuant to Sections 242 and 245 of the  
General Corporation Law of the State of Delaware)

Xilio Therapeutics, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the “**General Corporation Law**”),

DOES HEREBY CERTIFY:

1. That the name of this corporation is Xilio Therapeutics, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on June 18, 2020.

2. That the Board of Directors duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

**FIRST:** The name of this corporation is Xilio Therapeutics, Inc. (the “**Corporation**”).

**SECOND:** The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, 19801. The name of its registered agent at such address is The Corporation Trust Company.

**THIRD:** The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

**FOURTH:** The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 213,000,000 shares of Common Stock, \$0.0001 par value per share (“**Common Stock**”), and (ii) 174,808,481 shares of Preferred Stock, \$0.0001 par value per share (“**Preferred Stock**”).

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

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A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings); provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Amended and Restated Certificate of Incorporation that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Amended and Restated Certificate of Incorporation or pursuant to the General Corporation Law. There shall be no cumulative voting. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of this Amended and Restated Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

7,525,000 shares of the authorized Preferred Stock are hereby designated "**Series A Preferred Stock**," 19,565,216 shares of the authorized Preferred Stock are hereby designated "**Series A-1 Preferred Stock**," 79,446,624 shares of the authorized Preferred Stock are hereby designated "**Series B Preferred Stock**" and 68,271,641 shares of the authorized Preferred Stock are hereby designated "**Series C Preferred Stock**." The Preferred Stock shall have the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. Unless otherwise indicated, references to "sections" or "subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. Dividends.

1.1 From and after the date of issuance of any shares of Preferred Stock, each holder of Preferred Stock shall be entitled to receive dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend (payable other than in Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock), at the rate of \$0.060 per share of Series A Preferred Stock held by such holder per annum (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock), \$0.069 per share of Series A-1 Preferred Stock held by such holder per annum (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A-1 Preferred Stock), \$0.0759 per share of Series B Preferred Stock held by such holder per annum (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock) and \$0.0835 per share of Series C Preferred Stock held by such holder per annum (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C Preferred Stock), in each case payable only when, as and if declared by the Board of Directors of the Corporation. The right to receive such dividends on the Preferred Stock shall not be cumulative and, therefore, if not declared in any year, the right to receive such dividends shall terminate and not carry forward into the next year.

1.2 The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in this Amended and Restated Certificate of Incorporation) the holders of the Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Preferred Stock in an amount at least equal to (i) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Preferred Stock as would equal the product of (A) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (B) the number of shares of Common Stock issuable upon conversion of a share of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Preferred Stock determined by (A) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (B) multiplying such fraction by an amount equal to the Applicable Original Issue Price (as defined below); provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Preferred Stock pursuant to this Subsection 1.2 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest dividend on such series of Preferred Stock.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Payments to Holders of Series B Preferred Stock and Series C Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution, winding up of the Corporation or Deemed Liquidation Event, the holders of shares of Series B Preferred Stock and Series C Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made to the holders of Series A Preferred Stock, Series A-1 Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to (i) in the case of the Series B Preferred Stock, the Series B Original Issue Price, plus any dividends declared but unpaid thereon, and (ii) in the case of the Series C Preferred Stock, the Series C Original Issue Price, plus any dividends declared but unpaid thereon (the amount payable to shares of Series B Preferred Stock pursuant to this sentence together with any amounts payable with respect to shares of Series B Preferred Stock pursuant to Subsection 2.3, if applicable, is hereinafter referred to as the “**Series B Liquidation Amount**” and the amount payable to shares of Series C Preferred Stock pursuant to this sentence together with any amounts payable with respect to shares of Series C Preferred Stock pursuant to Subsection 2.3, if applicable, is hereinafter referred to as the “**Series C Liquidation Amount**”). If upon any such liquidation, dissolution, winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series B Preferred Stock and Series C Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series B Preferred Stock and Series C Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Payments to Holders of Series A Preferred Stock and Series A-1 Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution, winding up of the Corporation or Deemed Liquidation Event, after the payment in full of all amounts required to be paid pursuant to Subsection 2.1, the holders of shares of Series A Preferred Stock and Series A-1 Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to (i) in the case of the Series A Preferred Stock, the Series A Original Issue Price, plus any dividends declared but unpaid thereon, and (ii) in the case of the Series A-1 Preferred Stock, the Series A-1 Original Issue Price, plus any dividends declared but unpaid thereon (the amount payable to shares of Series A Preferred Stock pursuant to this sentence together with any amounts payable with respect to shares of Series A Preferred Stock pursuant to Subsection 2.3, if applicable, is hereinafter referred to as the “**Series A Liquidation Amount**” and the amount payable to shares of Series A-1 Preferred Stock pursuant to this sentence together with any amounts payable with respect to shares of Series A-1 Preferred Stock pursuant to Subsection 2.3, if applicable, is hereinafter referred to as the “**Series A-1 Liquidation Amount**”). If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series A Preferred Stock and Series A-1 Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series A Preferred Stock and Series A-1 Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.3 Distribution of Remaining Assets. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment in full of all amounts required to be paid pursuant to Subsections 2.1 and 2.2, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series C Preferred Stock, Series B Preferred Stock, Series A Preferred Stock, Series A-1 Preferred Stock and Common Stock, in proportion to the respective number of shares held by such holder, treating solely for purposes of this Subsection 2.3 all such securities as if they had been converted to Common Stock pursuant to the terms of this Amended and Restated Certificate of Incorporation immediately prior to such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event.



2.4 Deemed Liquidation Events.

2.4.1 Definition. Each of the following events shall be considered a “**Deemed Liquidation Event**” unless the holders of at least 75% of the outstanding shares of Preferred Stock (the “**Requisite Preferred Holders**”) elect otherwise by written notice sent to the Corporation at least 30 days prior to the effective date of any such event:

- (a) a merger or consolidation in which
  - (i) the Corporation is a constituent party or
  - (ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation; or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) (1) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or (2) the sale or disposition (whether by merger, consolidation or otherwise, and whether in a single transaction or a series of related transactions) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

2.4.2 Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.4.1(a)(i) unless the agreement or plan of merger or consolidation for such transaction (the “**Merger Agreement**”) provides that the consideration payable to the stockholders of the Corporation in such Deemed Liquidation Event shall be paid to the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3.

(b) In the event of a Deemed Liquidation Event referred to in Subsection 2.4.1(a)(ii) or 2.4.1(b), if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the ninetieth (90<sup>th</sup>) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (ii) to require the redemption of such shares of Preferred Stock, and (ii) if the Requisite Preferred Holders so request in a written instrument delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors of the Corporation), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the “**Available Proceeds**”), on the one hundred fiftieth (150<sup>th</sup>) day after such Deemed Liquidation Event, to redeem all outstanding shares of each series of Preferred Stock at a price per share equal to the Series A Liquidation Amount, Series A-1 Liquidation Amount, Series B Liquidation Amount or Series C Liquidation Amount, as applicable. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, the Corporation shall redeem a pro rata portion of each holder’s shares of Preferred Stock to the fullest extent of such Available Proceeds, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the Available Proceeds were sufficient to redeem all such shares, and shall redeem the remaining shares as soon as it may lawfully do so under Delaware law governing distributions to stockholders. Prior to the distribution or redemption provided for in this Subsection 2.4.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

2.4.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption shall be the cash or the value of the property, rights or securities to be paid or distributed to such holders pursuant to such Deemed Liquidation Event. The value of such property, rights or securities shall be determined in good faith by the Board of Directors of the Corporation, including the approval of a majority of the directors designated by certain holders of Preferred Stock pursuant to an Amended and Restated Voting Agreement to be entered into by and among the Corporation and the other parties to be named therein, as the same may be amended and/or restated from time to time (the “**Preferred Directors**”).

2.4.4 Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Subsection 2.4.1(a)(i), if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the “**Additional Consideration**”), the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the “**Initial Consideration**”) shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1, 2.2 and 2.3 after taking into account the previous payment of the Initial Consideration as part of the same transaction. For the purposes of this Subsection 2.4.4, consideration placed into escrow or retained as a holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

2.5 Definitions. The following terms have the following meanings in this Amended and Restated Certificate of Incorporation:

2.5.1 “**Applicable Original Issue Price**” shall mean the SeriesA Original Issue Price, in the case of SeriesA Preferred Stock, the SeriesA-1 Original Issue Price, in the case of SeriesA-1 Preferred Stock, the SeriesB Original Issue Price, in the case of SeriesB Preferred Stock, and the SeriesC Original Issue Price, in the case of SeriesC Preferred Stock.

2.5.2 “**SeriesA Original Issue Price**” shall mean \$1.00 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the SeriesA Preferred Stock.

2.5.3 “**SeriesA-1 Original Issue Price**” shall mean \$1.15 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the SeriesA-1 Preferred Stock.

2.5.4 “**SeriesB Original Issue Price**” shall mean \$1.265 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the SeriesB Preferred Stock.

2.5.5 “**SeriesC Original Issue Price**” shall mean \$1.3915 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the SeriesC Preferred Stock.

3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of this Amended and Restated Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class and on an as-converted to Common Stock basis.

3.2 Election of Directors. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Subsection 3.2, a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3.2.

3.3 Preferred Stock Protective Provisions. At any time when at least 43,695,870 shares of Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock) are outstanding, the Corporation shall not, and shall not permit any subsidiary to, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Amended and Restated Certificate of Incorporation) the written consent or affirmative vote of the Requisite Preferred Holders given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class:

3.3.1 liquidate, dissolve or wind-up the affairs of the Corporation, whether voluntarily or involuntarily, or effect any merger or consolidation or any other Deemed Liquidation Event or consent or enter into any agreement to do any of the foregoing;

3.3.2 amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or Bylaws of the Corporation if it would adversely alter the rights, preferences, privileges or powers of or restrictions on any series of Preferred Stock;

3.3.3 create or authorize the creation of, or issue, or incur any obligation to issue, any other security convertible into or exercisable for, any equity security, having rights, preferences or privileges senior to or on parity with any series of Preferred Stock, including with respect to redemption and distributions to be made on liquidation or otherwise, or increase the authorized number of shares of Preferred Stock;

3.3.4 reclassify, alter or amend any existing security of the Corporation that is pari passu with any series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to such Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to any series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with such Preferred Stock in respect of any such right, preference or privilege;

3.3.5 purchase or redeem or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Preferred Stock as expressly authorized herein, (ii) dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock and (iii) repurchases of stock from employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at the lower of the original purchase price or the then-current fair market value thereof or (iv) as approved by the Board of Directors, including the approval of a majority of the Preferred Directors;

- 3.3.6 create or authorize the creation of any debt security other than equipment leases in the ordinary course of business;
- 3.3.7 create or hold an equity interest in any subsidiary, including a wholly owned subsidiary, or dispose of any subsidiary equity or all or substantially all of any subsidiary assets;
- 3.3.8 increase or decrease the authorized number of directors constituting the Board of Directors; or
- 3.3.9 grant or create any lien or security interests in any of the assets of the Corporation or any subsidiary other than equipment in connection with equipment leases in the ordinary course of business and permitted encumbrances.

4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the “**Conversion Rights**”):

4.1 Right to Convert.

4.1.1 Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing the Applicable Original Issue Price by the Applicable Conversion Price (as defined below) in effect at the time of conversion. The “**Series A Conversion Price**” shall initially be equal to \$1.00. Such initial Series A Conversion Price, and the rate at which shares of Series A Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. The “**Series A-1 Conversion Price**” shall initially be equal to \$1.15. Such initial Series A-1 Conversion Price, and the rate at which shares of Series A-1 Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. The “**Series B Conversion Price**” shall initially be equal to \$1.265. Such initial Series B Conversion Price, and the rate at which shares of Series B Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. The “**Series C Conversion Price**” shall initially be equal to \$1.3915. Such initial Series C Conversion Price, and the rate at which shares of Series C Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below. The “**Applicable Conversion Price**” shall mean the Series A Conversion Price, in the case of Series A Preferred Stock, the Series A-1 Conversion Price, in the case of Series A-1 Preferred Stock, the Series B Conversion Price, in the case of Series B Preferred Stock, and the Series C Conversion Price, in the case of Series C Preferred Stock.

4.1.2 Termination of Conversion Rights. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors of the Corporation. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of Preferred Stock and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the specified shares shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a notice of issuance of uncertificated shares and may, upon written request, issue and deliver a certificate for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and, may, if applicable and upon written request, issue and deliver a certificate for the number (if any) of the shares of Preferred Stock represented by any surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Amended and Restated Certificate of Incorporation. Before taking any action which would cause an adjustment reducing a Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the applicable series of Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and non-assessable shares of Common Stock at such adjusted Conversion Price.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Applicable Conversion Price shall be made for any declared but unpaid dividends on the applicable series of Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Applicable Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

- (a) “**Option**” shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.
- (b) “**Series C Original Issue Date**” shall mean the date on which the first share of Series C Preferred Stock was issued.

(c) **“Convertible Securities”** shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) **“Additional Shares of Common Stock”** shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Series C Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, **“Exempted Securities”**):

- (i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on Preferred Stock;
- (ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsection 4.5, 4.6, 4.7 or 4.8;
- (iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors of the Corporation, including the approval of a majority of the Preferred Directors;
- (iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;
- (v) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board of Directors of the Corporation, including the approval of a majority of the Preferred Directors; or



- (vi) shares of Common Stock, Options or Convertible Securities issued to suppliers or third party service providers in connection with the provision of goods or services pursuant to transactions approved by the Board of Directors of the Corporation, including the approval of a majority of the Preferred Directors;
- (vii) shares of Common Stock, Options or Convertible Securities issued as acquisition consideration pursuant to the acquisition of another corporation by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided that such issuances are approved by the Board of Directors of the Corporation, including the approval of a majority of the Preferred Directors;
- (viii) shares of Common Stock, Options or Convertible Securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors of the Corporation, including the approval of a majority of the Preferred Directors; or
- (ix) shares of Common Stock issued or issuable pursuant to that Warrant to Purchase Series A Preferred Stock held by Walter Greenblatt & Associates.

4.4.2 No Adjustment of Applicable Conversion Price. No adjustment in the Applicable Conversion Price shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Requisite Preferred Holders agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

#### 4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series C Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to a Conversion Price pursuant to the terms of Subsection 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Conversion Price as would have been obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Applicable Conversion Price to an amount which exceeds the lower of (i) the Applicable Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) such Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to a Conversion Price pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Applicable Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series C Original Issue Date), are revised after the Series C Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a)) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to a Conversion Price pursuant to the terms of Subsection 4.4.4, such Conversion Price shall be readjusted to such Conversion Price as would have been obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to a Conversion Price provided for in this Subsection 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to a Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to such Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Applicable Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series C Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the Applicable Conversion Price in effect immediately prior to such issuance or deemed issuance, then the Applicable Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP<sub>2</sub>" shall mean the Applicable Conversion Price in effect immediately after such issuance or deemed issuance of Additional Shares of Common Stock

(b) "CP<sub>1</sub>" shall mean the Applicable Conversion Price in effect immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issuance or deemed issuance or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued or deemed issued at a price per share equal to  $CP_1$  (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by  $CP_1$ ); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issuance or deemed issuance of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

- (i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;
- (ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors of the Corporation; and
- (iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors of the Corporation.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing:

- (i) The total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by
- (ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to a Conversion Price pursuant to the terms of Subsection 4.4.4, and such issuance dates occur within a period of no more than ninety (90) days from the first such issuance to the final such issuance, then, upon the final such issuance, such Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the SeriesC Original Issue Date effect a subdivision of the outstanding Common Stock, each Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the SeriesC Original Issue Date combine the outstanding shares of Common Stock, each Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series C Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event each Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Applicable Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing: (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, each Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter each Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series C Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.4, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.5, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Corporation) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Prices) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of a Conversion Price pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of the applicable series of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the applicable series of Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Applicable Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of the applicable series of Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security;

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public at a price of at least \$1.53065 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock), in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least \$50,000,000 of gross proceeds to the Corporation and in connection with such offering the Common Stock is listed for trading on the Nasdaq Global Market, the Nasdaq Capital Market, the New York Stock Exchange or another exchange or marketplace approved by the Board of Directors or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Preferred Holders (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the “**Mandatory Conversion Time**”), then (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate as calculated pursuant to Subsection 4.1.1, and (ii) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Subsection 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such holders (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Subsection 5.2. As soon as practicable after the Mandatory Conversion Time and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a notice of issuance of uncertificated shares and may, upon written request, issue and deliver a certificate for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and (b) pay cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.



6. Redemption. Except as expressly provided in this Amended and Restated Certificate of Incorporation, the shares of Preferred Stock shall not be redeemable

7. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock that are redeemed, converted or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption, conversion or acquisition.

8. Waiver. Any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the Requisite Preferred Holders.

9. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

**FIFTH:** Subject to any additional vote required by this Amended and Restated Certificate of Incorporation or Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

**SIXTH:** Subject to any additional vote required by this Amended and Restated Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

**SEVENTH:** Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

**EIGHTH:** Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

**NINTH:** To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

**TENTH:** The following indemnification provisions shall apply to the persons enumerated below.

1. Right to Indemnification of Directors and Officers. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "**Indemnified Person**") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "**Proceeding**"), by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such Indemnified Person in such Proceeding. Notwithstanding the preceding sentence, except as otherwise provided in Section 3 of this Article Tenth the Corporation shall be required to indemnify an Indemnified Person in connection with a Proceeding (or part thereof) commenced by such Indemnified Person only if the commencement of such Proceeding (or part thereof) by the Indemnified Person was authorized in advance by the Board of Directors.

2. Prepayment of Expenses of Directors and Officers. The Corporation shall pay the expenses (including attorneys' fees) incurred by an Indemnified Person in defending any Proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Indemnified Person to repay all amounts advanced if it should be ultimately determined that the Indemnified Person is not entitled to be indemnified under this Article Tenth or otherwise.

3. Claims by Directors and Officers. If a claim for indemnification or advancement of expenses under this Article Tenth is not paid in full within thirty (30) days after a written claim therefor by the Indemnified Person has been received by the Corporation, the Indemnified Person may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Indemnified Person is not entitled to the requested indemnification or advancement of expenses under applicable law.

4. Indemnification of Employees and Agents. The Corporation may indemnify and advance expenses to any person who was or is made or is threatened to be made or is otherwise involved in any Proceeding by reason of the fact that such person, or a person for whom such person is the legal representative, is or was an employee or agent of the Corporation or, while an employee or agent of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such person in connection with such Proceeding. The ultimate determination of entitlement to indemnification of persons who are non-director or officer employees or agents shall be made in such manner as is determined by the Board of Directors in its sole discretion. Notwithstanding the foregoing sentence, the Corporation shall not be required to indemnify a person in connection with a Proceeding initiated by such person if the Proceeding was not authorized in advance by the Board of Directors.

5. Advancement of Expenses of Employees and Agents. The Corporation may pay the expenses (including attorneys' fees) incurred by an employee or agent in defending any Proceeding in advance of its final disposition on such terms and conditions as may be determined by the Board of Directors.

6. Non-Exclusivity of Rights. The rights conferred on any person by this Article Tenth shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of this Amended and Restated Certificate of Incorporation, the Bylaws of the Corporation, or any agreement, or pursuant to any vote of stockholders or disinterested directors or otherwise.

7. Other Indemnification. The Corporation's obligation, if any, to indemnify any person who was or is serving at its request as a director, officer or employee of another Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise shall be reduced by any amount such person may collect as indemnification from such other Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise.

8. Insurance. The Board of Directors may, to the full extent permitted by applicable law as it presently exists, or may hereafter be amended from time to time, authorize an appropriate officer or officers to purchase and maintain at the Corporation's expense insurance: (a) to indemnify the Corporation for any obligation which it incurs as a result of the indemnification of directors, officers and employees under the provisions of this Article Tenth; and (b) to indemnify or insure directors, officers and employees against liability in instances in which they may not otherwise be indemnified by the Corporation under the provisions of this Article Tenth.

9. Amendment or Repeal. Any repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification. The rights provided hereunder shall inure to the benefit of any Indemnified Person and such person's heirs, executors and administrators.

**ELEVENTH:** The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered, an opportunity to participate in, any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee or consultant of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, officer, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, the persons referred to in clauses (i) and (ii) are "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation (an "**Investor Business Opportunity**"). To the fullest extent permitted by law, and solely in connection therewith, the Corporation hereby waives any claim against a Covered Person, and agrees to indemnify all Covered Persons against any claim, that is based on fiduciary duties, the corporate opportunity doctrine or any other legal theory which could limit any Covered Person from pursuing or engaging in any Investor Business Opportunity.

**TWELFTH:** Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

\* \* \*

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 22<sup>nd</sup> day of February, 2021.

By: /s/ René Russo

Name: René Russo

Title: Chief Executive Officer

CERTIFICATE OF AMENDMENT  
OF  
AMENDED AND RESTATED CERTIFICATE OF INCORPORATION  
OF  
XILIO THERAPEUTICS, INC.

Pursuant to Section 242 of the  
General Corporation Law of the State of Delaware

Xilio Therapeutics, Inc. (the “**Corporation**”), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the “**DGCL**”), does hereby certify as follows:

Resolutions were duly adopted by the Board of Directors of the Corporation pursuant to Sections 141(f) and 242 of the DGCL setting forth an amendment to the Amended and Restated Certificate of Incorporation of the Corporation (the “**Certificate**”) and declaring such amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment by written consent in accordance with Sections 228 and 242 of the DGCL. The resolutions setting forth the amendment are as follows:

**RESOLVED:** That the Certificate is hereby amended by deleting in its entirety the first paragraph of Article FOURTH thereof and inserting in lieu thereof the following:

“The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 220,400,000 shares of Common Stock, \$0.0001 par value per share (“**Common Stock**”), and (ii) 174,808,481 shares of Preferred Stock, \$0.0001 par value per share (“**Preferred Stock**”).”

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IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its President and Chief Executive Officer this 4<sup>th</sup> day of June, 2021.

**XILIO THERAPEUTICS, INC.**

By: /s/ Rene Russo  
Rene Russo  
President and Chief Executive Officer

**CERTIFICATE OF AMENDMENT  
TO THE  
AMENDED AND RESTATED CERTIFICATE OF INCORPORATION  
OF  
XILIO THERAPEUTICS, INC.**

Xilio Therapeutics, Inc. (the "**Corporation**"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "**General Corporation Law**"), does hereby certify as follows:

A resolution was duly adopted by the Board of Directors of the Corporation pursuant to Section 242 of the General Corporation Law setting forth an amendment to the Corporation's Amended and Restated Certificate of Incorporation, as amended (the "**Certificate of Incorporation**") and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment by written consent in accordance with Sections 228 and 242 of the General Corporation Law. Accordingly, to effect such proposed amendment, it is

**RESOLVED:** That the first paragraph of Article FOURTH of the Certificate of Incorporation be and hereby is deleted in its entirety and the following is inserted in lieu thereof:

"That, effective on the filing of this Certificate of Amendment to the Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware (the "**Effective Time**"), a one-for-9.5 reverse stock split of the Corporation's Common Stock, \$0.0001 par value per share ("**Common Stock**"), shall become effective, pursuant to which each 9.5 shares of Common Stock outstanding and held of record by each stockholder of the Corporation (including treasury shares) immediately prior to the Effective Time shall be reclassified and combined into one (1) validly issued, fully paid and nonassessable share of Common Stock automatically and without any action by the holder thereof upon the Effective Time and shall represent one share of Common Stock from and after the Effective Time (such reclassification and combination of shares, the "**Reverse Stock Split**"). The par value of the Common Stock following the Reverse Stock Split shall remain at \$0.0001 per share. No fractional shares of Common Stock shall be issued as a result of the Reverse Stock Split and, in lieu thereof, upon surrender after the Effective Time of a certificate which formerly represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time, if applicable, any person who would otherwise be entitled to a fractional share of Common Stock as a result of the Reverse Stock Split, following the Effective Time, shall be entitled to receive a cash payment equal to the fraction of a share of Common Stock to which such holder would otherwise be entitled multiplied by the fair value per share of the Common Stock immediately prior to the Effective Time as determined by the Board of Directors of the Corporation.

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Each stock certificate that, immediately prior to the Effective Time, represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time shall, from and after the Effective Time, automatically and without the necessity of presenting the same for exchange, represent that number of whole shares of Common Stock after the Effective Time into which the shares formerly represented by such certificate have been reclassified (as well as the right to receive cash in lieu of fractional shares of Common Stock after the Effective Time); provided, however, that each person of record holding a certificate that represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time shall receive, upon surrender of such certificate, a new certificate, or a notice of issuance of uncertificated shares, evidencing and representing the number of whole shares of Common Stock after the Effective Time into which the shares of Common Stock formerly represented by such certificate shall have been reclassified.

The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 213,000,000 shares of the Corporation's Common Stock, \$0.0001 par value per share ("**Common Stock**") and (ii) 174,808,481 shares of Preferred Stock, \$0.0001 par value per share ("**Preferred Stock**")."

**FURTHER  
RESOLVED:**

That Subsection 5.1 of Section B of Article FOURTH of the Certificate of Incorporation be and hereby is deleted in its entirety and the following is inserted in lieu thereof:

"5.1. Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least \$50,000,000 of gross proceeds to the Corporation and in connection with such offering the Common Stock is listed for trading on the Nasdaq Global Market, the Nasdaq Capital Market, the New York Stock Exchange or another exchange or marketplace approved by the Board of Directors or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Preferred Holders (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the "**Mandatory Conversion Time**"), then (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate as calculated pursuant to Subsection 4.1.1, and (ii) such shares may not be reissued by the Corporation."

*[Remainder of Page Intentionally Left Blank]*

IN WITNESS WHEREOF, this Certificate of Amendment has been executed by a duly authorized officer of the Corporation on this 15<sup>th</sup> day of October, 2021.

**XILIO THERAPEUTICS, INC.**

By: /s/ René Russo  
Name: René Russo  
Title: President and Chief Executive Officer

*[Signature Page to Certificate of Amendment]*

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October 18, 2021

Xilio Therapeutics, Inc.  
828 Winter Street, Suite 300  
Waltham, Massachusetts 02451

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

This opinion is furnished to you in connection with a Registration Statement on Form S-1 (File No. 333-259973) (the "Registration Statement") filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of 7,353,000 shares of Common Stock, \$0.0001 par value per share (the "Shares"), of Xilio Therapeutics, Inc., a Delaware corporation (the "Company"), including 1,102,950 Shares issuable upon exercise of an option to purchase additional shares granted by the Company under the Underwriting Agreement (as defined below).

The Shares are to be sold by the Company pursuant to an underwriting agreement (the "Underwriting Agreement") to be entered into by and among the Company and Morgan Stanley & Co. LLC, Cowen and Company, LLC and Guggenheim Securities, LLC, as representatives of the several underwriters named in the Underwriting Agreement, the form of which has been filed as Exhibit 1.1 to the Registration Statement.

We are acting as counsel for the Company in connection with the issue and sale by the Company of the Shares. We have examined signed copies of the Registration Statement as filed with the Commission. We have also examined and relied upon the Underwriting Agreement, minutes of meetings of the stockholders and the Board of Directors of the Company as provided to us by the Company, stock record books of the Company as provided to us by the Company, the Certificate of Incorporation and By-Laws of the Company, each as restated and/or amended to date, and such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents, the legal competence of all signatories to such documents and the delivery of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied, without independent verification, upon certificates of officers of the Company, public officials and other appropriate persons.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Palo Alto San Francisco Washington

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Xilio Therapeutics, Inc.  
October 18, 2021  
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We express no opinion herein as to the laws of any state or jurisdiction other than the General Corporation Law of the State of Delaware.

Based upon and subject to the foregoing, we are of the opinion that (a) when the pricing committee of the Board of Directors of the Company has taken all action necessary to approve the sale price of the Shares and (b) upon payment for and delivery of the Shares in accordance with the Underwriting Agreement, the Shares, when issued and sold in accordance with the provisions of the Underwriting Agreement, will be validly issued, fully paid and nonassessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of our name therein and in the related Prospectus under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ WILMER CUTLER PICKERING HALE AND DORR LLP

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## Xilio Therapeutics, Inc.

## 2021 STOCK INCENTIVE PLAN

1. Purpose

The purpose of this 2021 Stock Incentive Plan (the "**Plan**") of Xilio Therapeutics, Inc., a Delaware corporation (the "**Company**"), is to advance the interests of the Company's stockholders by enhancing the Company's ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company's stockholders. Except where the context otherwise requires, the term "**Company**" shall include any of the Company's present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations thereunder (the "**Code**") and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the "**Board**").

2. Eligibility

All of the Company's employees, officers and directors, as well as consultants and advisors to the Company (as the terms consultants and advisors are defined and interpreted for purposes of Form S-8 under the Securities Act of 1933, as amended (the "**Securities Act**"), or any successor form) are eligible to be granted Awards (as defined below) under the Plan. Each person who is granted an Award under the Plan is deemed a "**Participant**." "**Award**" means Options (as defined in Section 5), SARs (as defined in Section 6), Restricted Stock (as defined in Section 7), Restricted Stock Units (as defined in Section 7) and Other Stock-Based Awards (as defined in Section 8).

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board's sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a "**Committee**"). All references in the Plan to the "**Board**" shall mean the Board or a Committee of the Board or the officers referred to in Section 3(c) to the extent that the Board's powers or authority under the Plan have been delegated to such Committee or officers.

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(c) Delegation to Officers. Subject to any requirements of applicable law (including as applicable Sections 152 and 157(c) of the General Corporation Law of the State of Delaware), the Board may delegate to one or more officers of the Company the power to grant Awards (subject to any limitations under the Plan) to employees or officers of the Company and to exercise such other powers under the Plan as the Board may determine, provided that the Board shall fix the terms of Awards to be granted by such officers, the maximum number of shares subject to Awards that the officers may grant, and the time period in which such Awards may be granted; and provided further, that no officer shall be authorized to grant Awards to any “executive officer” of the Company (as defined by Rule 3b-7 under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”)) or to any “officer” of the Company (as defined by Rule 16a-1(f) under the Exchange Act).

4. Stock Available for Awards

(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 9, Awards may be made under the Plan for up to such number of shares of common stock, \$0.0001 par value per share, of the Company (the “**Common Stock**”) as is equal to the sum of:

(A) 2,654,828 shares of Common Stock; plus

(B) such additional number of shares of Common Stock (up to 3,967,038 shares) as is equal to the sum of (x) the number of shares of Common Stock reserved for issuance under the Company’s 2020 Stock Incentive Plan, as amended (the “**Existing Plan**”), that remain available for grant under the Existing Plan immediately prior to the effectiveness of the registration statement for the Company’s initial public offering (the “**Offering**”) and (y) the number of shares of Common Stock subject to awards whether granted under the Existing Plan or outside of the Existing Plan prior to the Effective Date which awards expire, terminate or are otherwise surrendered, canceled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right and that, prior to the effectiveness of this Plan, would have become available for issuance under the Existing Plan (subject, however, in the case of Incentive Stock Options to any limitations of the Code); plus

(C) an annual increase to be added on the first day of each fiscal year, commencing on January 1, 2022 and continuing for each fiscal year until, and including, January 1, 2031, equal to the least of (i) 5% of the outstanding shares on such date and (ii) the number of shares of Common Stock determined by the Board.

Subject to adjustment under Section 9, up to 5,309,656 of the shares of Common Stock available for issuance under the Plan may be issued as Incentive Stock Options (as defined in Section 5(b)) under the Plan. Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(2) Share Counting. For purposes of counting the number of shares available for the grant of Awards under the Plan under this Section 4(a):

(A) all shares of Common Stock covered by SARs shall be counted against the number of shares available for the grant of Awards under the Plan; *provided, however*, that (i) SARs that may be settled only in cash shall not be so counted and (ii) if the Company grants an SAR in tandem with an Option for the same number of shares of Common Stock and provides that only one such Award may be exercised (a "**Tandem SAR**"), only the shares covered by the Option, and not the shares covered by the Tandem SAR, shall be so counted, and the expiration of one in connection with the other's exercise will not restore shares to the Plan;

(B) to the extent a Restricted Stock Unit award may be settled only in cash, no shares shall be counted against the shares available for the grant of Awards under the Plan;

(C) if any Award (i) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (ii) results in any Common Stock not being issued (including as a result of an SAR that was settleable either in cash or in stock actually being settled in cash), the unused Common Stock covered by such Award shall again be available for the grant of Awards; *provided, however*, that (1) in the case of Incentive Stock Options, the foregoing shall be subject to any limitations under the Code, (2) in the case of the exercise of an SAR, the number of shares counted against the shares available under the Plan shall be the full number of shares subject to the SAR multiplied by the percentage of the SAR actually exercised, regardless of the number of shares actually used to settle such SAR upon exercise and (3) the shares covered by a Tandem SAR shall not again become available for grant upon the expiration or termination of such Tandem SAR; and

(D) shares of Common Stock delivered (by actual delivery, attestation, or net exercise) to the Company by a Participant to (i) purchase shares of Common Stock upon the exercise of an Award or (ii) satisfy tax withholding obligations with respect to Awards (including shares retained from the Award creating the tax obligation) shall be added back to the number of shares available for the future grant of Awards.

(b) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a)(1) or any sublimit contained in the Plan, except as may be required by reason of Section 422 and related provisions of the Code.

(c) Limit on Awards to Non-Employee Directors. The maximum aggregate amount of cash and value (calculated based on grant date fair value for financial reporting purposes) of Awards granted in any calendar year to any individual non-employee director in his or her capacity as a non-employee director shall not exceed \$1,000,000; provided, however, that fees paid by the Company on behalf of any non-employee director in connection with regulatory compliance and any amounts paid to a non-employee director as reimbursement of an expense shall not count against the foregoing limit. The Board may make additional exceptions to this limit for individual non-employee directors in extraordinary circumstances, as the Board may determine in its discretion, provided that the non-employee director receiving such additional compensation may not participate in the decision to award such compensation. For the avoidance of doubt, this limitation shall not apply to cash or Awards granted to the non-employee director in his or her capacity as an advisor or consultant to the Company.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an “**Option**”) and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable.

(b) Incentive Stock Options. An Option that the Board intends to be an “incentive stock option” as defined in Section 422 of the Code (an “**Incentive Stock Option**”) shall only be granted to employees of Xilio Therapeutics, Inc., any of Xilio Therapeutics, Inc.’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. An Option that is not intended to be an Incentive Stock Option shall be designated a “**Nonstatutory Stock Option.**” The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or if the Company converts an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option or the formula by which such exercise price will be determined. The exercise price shall be specified in the applicable option agreement. The exercise price shall be not less than 100% of the Grant Date Fair Market Value (as defined below) of the Common Stock on the date the Option is granted; *provided* that if the Board approves the grant of an Option with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Grant Date Fair Market Value on such future date. “**Grant Date Fair Market Value**” of a share of Common Stock for purposes of the Plan will be determined as follows:

(1) if the Common Stock trades on a national securities exchange, the closing sale price (for the primary trading session) on the date of grant; or

(2) if the Common Stock does not trade on any such exchange, the average of the closing bid and asked prices on the date of grant as reported by an over-the-counter marketplace designated by the Board; or

(3) if the Common Stock is not publicly traded, the Board will determine the Grant Date Fair Market Value for purposes of the Plan using any measure of value it determines to be appropriate (including, as it considers appropriate, relying on appraisals) in a manner consistent with the valuation principles under Code Section 409A, except as the Board may expressly determine otherwise.



For any date that is not a trading day, the Grant Date Fair Market Value of a share of Common Stock for such date will be determined by using the closing sale price or average of the bid and asked prices, as appropriate, for the immediately preceding trading day and with the timing in the formulas above adjusted accordingly. The Board can substitute a particular time of day or other measure of "closing sale price" or "bid and asked prices" if appropriate because of exchange or market procedures or can, in its sole discretion, use weighted averages either on a daily basis or such longer period as complies with Code Section 409A.

Notwithstanding the foregoing, in respect of Options granted in connection with the Offering (to the extent determined by the Board), the Grant Date Fair Market Value of a share of Common Stock shall be the per share price at which shares of Common Stock are sold by the underwriters to the public in the Offering.

The Board has sole discretion to determine the Grant Date Fair Market Value for purposes of the Plan, and all Awards are conditioned on the Participants' agreement that the Board's determination is conclusive and binding even though others might make a different determination.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable Option agreement; *provided, however*, that no Option will be granted with a term in excess of 10 years.

(e) Exercise of Options. Options may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic, and which may be provided to a third party equity plan administrator) approved by the Company, together with payment in full (in the manner specified in Section 5(f)) of the exercise price for the number of shares for which the Option is exercised. Shares of Common Stock subject to the Option will be delivered by the Company as soon as practicable following exercise.

(f) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash or by check, payable to the order of the Company;

(2) except as may otherwise be provided in the applicable Option agreement or approved by the Board, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) to the extent provided for in the applicable Option agreement or approved by the Board, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the Participant valued at their fair market value (valued in the manner determined by (or in a manner approved by) the Board), provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be established by the Board and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent provided for in the applicable Nonstatutory Stock Option agreement or approved by the Board, by delivery of a notice of "net exercise" to the Company, as a result of which the Participant would receive (i) the number of shares underlying the portion of the Option being exercised, less (ii) such number of shares as is equal to (A) the aggregate exercise price for the portion of the Option being exercised divided by (B) the fair market value of the Common Stock (valued in the manner determined by (or in a manner approved by) the Board) on the date of exercise;

(5) to the extent permitted by applicable law and provided for in the applicable Option agreement or approved by the Board by payment of such other lawful consideration as the Board may determine; or

(6) by any combination of the above permitted forms of payment, to the extent approved by the Board.

(g) Limitation on Repricing. Unless such action is approved by the Company's stockholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding Option granted under the Plan to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option, (2) cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(b)) covering the same or a different number of shares of Common Stock and having an exercise or measurement price per share lower than the then-current exercise price per share of the cancelled option, (3) cancel in exchange for a cash payment any outstanding Option with an exercise price per share above the then-current fair market value of the Common Stock (valued in the manner determined by (or in the manner approved by) the Board) or (4) take any other action under the Plan that constitutes a "repricing" within the meaning of the rules of the Nasdaq Stock Market or any other exchange or marketplace on which the Company stock is listed or traded (the "**Exchange**").

(h) No Reload Options. No Option granted under the Plan shall contain any provision entitling the Participant to the automatic grant of additional Options in connection with any exercise of the original Option.

(i) No Dividend Equivalents. No Option shall provide for the payment or accrual of dividend equivalents.

6. Stock Appreciation Rights

(a) General. The Board may grant Awards consisting of stock appreciation rights (“SARs”) entitling the holder, upon exercise, to receive an amount of Common Stock or cash or a combination thereof (such form to be determined by the Board) determined by reference to appreciation, from and after the date of grant, in the fair market value of a share of Common Stock (valued in the manner determined by (or in the manner approved by) the Board) over the measurement price established pursuant to Section 6(b). The date as of which such appreciation is determined shall be the exercise date.

(b) Measurement Price. The Board shall establish the measurement price of each SAR and specify it in the applicable SAR agreement. The measurement price shall not be less than 100% of the Grant Date Fair Market Value of the Common Stock on the date the SAR is granted; *provided* that if the Board approves the grant of an SAR effective as of a future date, the measurement price shall be not less than 100% of the Grant Date Fair Market Value on such future date.

(c) Duration of SARs. Each SAR shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable SAR agreement; *provided, however*, that no SAR will be granted with a term in excess of 10 years.

(d) Exercise of SARs. SARs may be exercised by delivery to the Company of a notice of exercise in a form (which may be electronic) approved by the Company, together with any other documents required by the Board.

(e) Limitation on Repricing. Unless such action is approved by the Company’s stockholders, the Company may not (except as provided for under Section 9): (1) amend any outstanding SAR granted under the Plan to provide a measurement price per share that is lower than the then-current measurement price per share of such outstanding SAR, (2) cancel any outstanding SAR (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan (other than Awards granted pursuant to Section 4(b)) covering the same or a different number of shares of Common Stock and having an exercise or measurement price per share lower than the then-current measurement price per share of the cancelled SAR, (3) cancel in exchange for a cash payment any outstanding SAR with a measurement price per share above the then-current fair market value of the Common Stock (valued in the manner determined by (or in a manner approved by) the Board) or (4) take any other action under the Plan that constitutes a “repricing” within the meaning of the rules of the Exchange.

(f) No Reload SARs. No SAR granted under the Plan shall contain any provision entitling the Participant to the automatic grant of additional SARs in connection with any exercise of the original SAR.

(g) No Dividend Equivalents. No SAR shall provide for the payment or accrual of dividend equivalents.

7. Restricted Stock; Restricted Stock Units

(a) General. The Board may grant Awards entitling recipients to acquire shares of Common Stock ("**Restricted Stock**"), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. The Board may also grant Awards entitling the recipient to receive shares of Common Stock or cash to be delivered as soon as practicable after the time such Award vests or is settled ("**Restricted Stock Units**") (Restricted Stock and Restricted Stock Units are each referred to herein as a "**Restricted Stock Award**").

(b) Terms and Conditions for All Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, if any.

(c) Additional Provisions Relating to Restricted Stock.

(1) Dividends. Any dividends (whether paid in cash, stock or property) declared and paid by the Company with respect to shares of Restricted Stock ("**Accrued Dividends**") shall be paid to the Participant only if and when such shares become free from the restrictions on transferability and forfeitability that apply to such shares. Each payment of Accrued Dividends will be made no later than the end of the calendar year in which the dividends are paid to stockholders of that class of stock or, if later, the 15th day of the third month following the lapsing of the restrictions on transferability and the forfeitability provisions applicable to the underlying shares of Restricted Stock.

(2) Stock Certificates. The Company may require that any stock certificates issued in respect of shares of Restricted Stock, as well as dividends or distributions paid on such Restricted Stock, shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to his or her Designated Beneficiary. "**Designated Beneficiary**" means (i) the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant's death or (ii) in the absence of an effective designation by a Participant, the Participant's estate.

(d) Additional Provisions Relating to Restricted Stock Units.

(1) Settlement. As soon as practicable after the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Stock Unit, the Participant shall be entitled to receive from the Company such number of shares of Common Stock or (if so provided in the applicable Award agreement) an amount of cash equal to the fair market value (valued in the manner determined by (or in a manner approved by) the Board) of such number of shares of Common Stock as are set forth in the applicable Restricted Stock Unit agreement. The Board may provide that settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the Participant in a manner that complies with Section 409A of the Code.

(2) Voting Rights. A Participant shall have no voting rights with respect to any Restricted Stock Units.

(3) Dividend Equivalents. The Award agreement for Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock ("**Dividend Equivalents**"). Dividend Equivalents may be settled in cash and/or shares of Common Stock, as provided in the Award agreement, and shall be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which paid.

8. Other Stock-Based Awards

(a) General. The Board may grant other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property ("**Other Stock-Based Awards**"). Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine.

(b) Terms and Conditions. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto.

(c) Dividend Equivalents. The Award agreement for an Other Stock-Based Award may provide Participants with the right to receive Dividend Equivalents. Dividend Equivalents will be credited to an account for the Participant, may be settled in cash and/or shares of Common Stock as set forth in the Award agreement and shall be subject to the same restrictions on transfer and forfeitability as the Other Stock-Based Award with respect to which paid. No interest will be paid on Dividend Equivalents.

9. Adjustments for Changes in Common Stock and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under the Plan, and the number and class of securities available for issuance under the Plan that may be issued as Incentive Stock Options under the Plan, (ii) the share counting rules set forth in Section 4(a), (iii) the number and class of securities and exercise price per share of each outstanding Option, (iv) the share and per-share provisions and the measurement price of each outstanding SAR, (v) the number of shares subject to and the repurchase price per share subject to each outstanding award of Restricted Stock and (vi) the share and per-share-related provisions and the purchase price, if any, of each outstanding Restricted Stock Unit award and each outstanding Other Stock-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A “**Reorganization Event**” shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled, (b) any transfer or disposition of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Restricted Stock.

(A) In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Stock on such terms as the Board determines (except to the extent specifically provided otherwise in an applicable Award agreement or another agreement between the Company and the Participant): (i) provide that such Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that all of the Participant’s unvested Awards will be forfeited immediately prior to the consummation of such Reorganization Event and/or that all of the Participant’s unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant (to the extent then exercisable) within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the “**Acquisition Price**”), make or provide for a cash payment to Participants with respect to each Award held by a Participant equal to (A) the number of shares of Common Stock subject to the vested portion of the Award (after giving effect to any acceleration of vesting that occurs upon or immediately prior to such Reorganization Event) multiplied by (B) the excess, if any, of (I) the Acquisition Price over (II) the exercise, measurement or purchase price of such Award and any applicable tax withholdings, in exchange for the termination of such Award, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise, measurement or purchase price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 9(b)(2), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

(B) Notwithstanding the terms of Section 9(b)(2)(A), in the case of outstanding Restricted Stock Units that are subject to Section 409A of the Code: (i) if the applicable Restricted Stock Unit agreement provides that the Restricted Stock Units shall be settled upon a “change in control event” within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(i), and the Reorganization Event constitutes such a “change in control event”, then no assumption or substitution shall be permitted pursuant to Section 9(b)(2)(A) (i) and the Restricted Stock Units shall instead be settled in accordance with the terms of the applicable Restricted Stock Unit agreement; and (ii) the Board may only undertake the actions set forth in clauses (iii), (iv) or (v) of Section 9(b)(2)(A) if the Reorganization Event constitutes a “change in control event” as defined under Treasury Regulation Section 1.409A-3(i)(5)(i) and such action is permitted or required by Section 409A of the Code; if the Reorganization Event is not a “change in control event” as so defined or such action is not permitted or required by Section 409A of the Code, and the acquiring or succeeding corporation does not assume or substitute the Restricted Stock Units pursuant to clause (i) of Section 9(b)(2)(A), then the unvested Restricted Stock Units shall terminate immediately prior to the consummation of the Reorganization Event without any payment in exchange therefor.

(C) For purposes of Section 9(b)(2)(A)(i), an Award (other than Restricted Stock) shall be considered assumed if, following consummation of the Reorganization Event, such Award confers the right to purchase or receive pursuant to the terms of such Award, for each share of Common Stock subject to the Award immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); *provided, however*, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise or settlement of the Award to consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the Board determines to be equivalent in value (as of the date of such determination or another date specified by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

(3) Consequences of a Reorganization Event on Restricted Stock. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company with respect to outstanding Restricted Stock shall inure to the benefit of the Company’s successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to such Restricted Stock; *provided, however*, that the Board may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, either initially or by amendment. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock or any other agreement between a Participant and the Company, all restrictions and conditions on all Restricted Stock then outstanding shall automatically be deemed terminated or satisfied.

10. General Provisions Applicable to Awards

(a) Transferability of Awards. Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant; *provided, however*, that, except with respect to Awards subject to Section 409A of the Code, the Board may permit or provide in an Award for the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if the Company would be eligible to use a Form S-8 under the Securities Act for the registration of the sale of the Common Stock subject to such Award to such proposed transferee; *provided further*, that the Company shall not be required to recognize any such permitted transfer until such time as such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees. For the avoidance of doubt, nothing contained in this Section 10(a) shall be deemed to restrict a transfer to the Company.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant's legal representative, conservator, guardian or Designated Beneficiary, may exercise rights or receive any benefits under the Award.



(e) **Withholding.** The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Common Stock under an Award. The Company may elect to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise, vesting or release from forfeiture of an Award or at the same time as payment of the exercise or purchase price, unless the Company determines otherwise. If provided for in an Award or approved by the Board, a Participant may satisfy the tax obligations in whole or in part by delivery (either by actual delivery or attestation) of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their fair market value (valued in the manner determined by (or in a manner approved by) the Company); *provided, however*, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal, state and local tax purposes, including payroll taxes, that are applicable to such supplemental taxable income), except that, to the extent that the Company is able to retain shares of Common Stock having a fair market value (determined by, or in a manner approved by, the Company) that exceeds the statutory minimum applicable withholding tax without financial accounting implications or the Company is withholding in a jurisdiction that does not have a statutory minimum withholding tax, the Company may retain such number of shares of Common Stock (up to the number of shares having a fair market value equal to the maximum individual statutory rate of tax (determined by, or in a manner approved by, the Company)) as the Company shall determine in its sole discretion to satisfy the tax liability associated with any Award. Shares used to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) **Amendment of Award.** Except as otherwise provided in Sections 5(g) and 6(e) with respect to repricings and Section 11(d) with respect to actions requiring stockholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant's consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, does not materially and adversely affect the Participant's rights under the Plan or (ii) the change is permitted under Section 9.

(g) **Conditions on Delivery of Stock.** The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously issued or delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and regulations and any applicable stock exchange or stock market rules and regulations and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) **Acceleration.** The Board may at any time provide that any Award shall become immediately exercisable in whole or in part, free from some or all restrictions or conditions, or otherwise realizable in whole or in part, as the case may be.

11. **Miscellaneous**

(a) **No Right To Employment or Other Status.** No person shall have any claim or right to be granted an Award by virtue of the adoption of the Plan, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Stockholder; Clawback Policy. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be issued with respect to an Award until becoming the record holder of such shares. In accepting an Award under the Plan, a Participant agrees to be bound by any clawback policy the Company has in effect or may adopt in the future.

(c) Effective Date and Term of Plan. The Plan shall become effective immediately prior to the effectiveness of the Company's registration statement for the Offering (the "**Effective Date**"). No Awards shall be granted under the Plan after the expiration of 10 years from the Effective Date, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that no amendment that would require stockholder approval under the rules of the Exchange may be made effective unless and until the Company's stockholders approve such amendment. In addition, if at any time the approval of the Company's stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 11(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment, taking into account any related action, does not materially and adversely affect the rights of Participants under the Plan. No Award shall be made that is conditioned upon stockholder approval of any amendment to the Plan unless the Award provides that (i) it will terminate or be forfeited if stockholder approval of such amendment is not obtained within no more than 12 months from the date of grant and (ii) it may not be exercised or settled (or otherwise result in the issuance of Common Stock) prior to such stockholder approval.

(e) Authorization of Sub-Plans (including for Grants to non-U.S. Employees). The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable securities, tax or other laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to the Plan containing (i) such limitations on the Board's discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

(f) Compliance with Section 409A of the Code. If and to the extent (i) any portion of any payment, compensation or other benefit provided to a Participant pursuant to the Plan in connection with his or her employment termination constitutes “nonqualified deferred compensation” within the meaning of Section 409A of the Code and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of “separation from service” (as determined under Section 409A of the Code) (the “**New Payment Date**”), except as Section 409A of the Code may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

The Company makes no representations or warranty and shall have no liability to the Participant or any other person if any provisions of or payments, compensation or other benefits under the Plan are determined to constitute nonqualified deferred compensation subject to Section 409A of the Code but do not to satisfy the conditions of that section.

(g) Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer, employee or agent of the Company will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability, or expense incurred in connection with the Plan, nor will such individual be personally liable with respect to the Plan because of any contract or other instrument he or she executes in his or her capacity as a director, officer, employee or agent of the Company. The Company will indemnify and hold harmless each director, officer, employee or agent of the Company to whom any duty or power relating to the administration or interpretation of the Plan has been or will be delegated, against any cost or expense (including attorneys’ fees) or liability (including any sum paid in settlement of a claim with the Board’s approval) arising out of any act or omission to act concerning the Plan unless arising out of such person’s own fraud or bad faith.

(h) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than the State of Delaware.

**Adopted by the Board of Directors on September 10, 2021**

**Approved by stockholders on October 12, 2021**

Xilio Therapeutics, Inc.

**STOCK OPTION AGREEMENT**

Xilio Therapeutics, Inc. (the “Company”) hereby grants the following stock option to the optionee named below pursuant to the Company’s 2021 Stock Incentive Plan (as amended through the date hereof, the “Plan”). The terms and conditions attached hereto are also a part hereof and incorporated herein by reference.

Notice of Grant

<b>Name of Optionee (the “Participant”):</b>	
<b>Grant Date:</b>	
<b>Incentive Stock Option <u>or</u> Nonstatutory Stock Option:</b>	
<b>Number of shares of Common Stock subject to this stock option (“Shares”):</b>	
<b>Option Exercise Price per Share:<sup>1</sup></b>	
<b>Vesting Start Date:</b>	
<b>Final Exercise Date:<sup>2</sup></b>	

**Vesting Schedule:**

For so long as Participant remains an Eligible Participant (as defined in Section 3(b) hereof) on the relevant date, this stock option shall vest as set forth below; provided that, if a Participant is an Eligible Participant on the date of the Participant’s death or disability (as defined in Section 3(d) hereof), all shares subject to this stock option shall immediately become fully vested effective as of the date of such death or disability.

Number of Shares	Vest Date

<sup>1</sup> This must be at least 100% of the Grant Date Fair Market Value (as defined in the Plan) of the Common Stock on the date of grant of the option. For the option to qualify as an incentive stock option (an “ISO”) under Section 422 of the Internal Revenue Code, this must be 110% in the case of a Participant that owns more than 10% of the total combined voting power of all classes of stock of the Company or its parent or subsidiary (a “10% Shareholder”).

<sup>2</sup> The Final Exercise Date must be no more than 10 years from the date of grant for the option. For the option to qualify as an ISO, the Final Exercise Date must be no more than 5 years in the case of a 10% Shareholder. The correct approach to calculate the final exercise date is to use the day immediately prior to the date ten years out from the date of the stock option award grant (5 years in the case of a 10% Shareholder).

This stock option satisfies in full all commitments that the Company has to the Participant with respect to the issuance of stock, stock options or other equity securities. Electronic acceptance of this stock option pursuant to the Company's instructions to the Participant (including through an online acceptance process) is acceptable.

**Xilio Therapeutics, Inc.**

**Participant:**

By: \_\_\_\_\_  
Name:  
Title:

\_\_\_\_\_  
Signature of Participant

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**Xilio Therapeutics, Inc.**

**Stock Option Agreement  
Incorporated Terms and Conditions**

1. Grant of Option.

This agreement evidences the grant by the Company, on the grant date (the "Grant Date") set forth in the Notice of Grant that forms part of this agreement (the "Notice of Grant"), to the Participant of an option to purchase, in whole or in part, on the terms provided herein and in the Plan, the number of Shares set forth in the Notice of Grant of common stock, \$0.0001 par value per share, of the Company ("Common Stock"), at the exercise price per Share set forth in the Notice of Grant. Unless earlier terminated, this stock option shall expire at 5:00 p.m., Eastern time, on the Final Exercise Date set forth in the Notice of Grant (the "Final Exercise Date").

The option evidenced by this agreement is intended to be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code") to the maximum extent permitted by law, solely to the extent designated as an incentive stock option in the Notice of Grant. Except as otherwise indicated by the context, the term "Participant", as used in this stock option, shall be deemed to include any person who acquires the right to exercise this stock option validly under its terms.

2. Vesting Schedule.

This stock option will become exercisable ("vest") in accordance with the vesting schedule set forth in the Notice of Grant.

The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this stock option under Section 3 hereof or the Plan.

3. Exercise of Option.

(a) Form of Exercise. Each election to exercise this stock option shall be in writing delivered to the Company at its principal office or in such other form (which may be electronic) as is approved by the Company, and shall specify the number of Shares to purchased and include payment in full in the manner provided in the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this stock option may be for any fractional share.

(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this stock option may not be exercised unless the Participant, at the time he or she exercises this stock option, is, and has been at all times since the Grant Date, an employee, director or officer of, or consultant or advisor to, the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive stock option grants under the Plan ("Eligible Participant"). Notwithstanding anything to the contrary in this agreement, neither the Company nor any subsidiary is obligated, by or as a result of the Plan or this agreement, to continue the Participant in a service relationship with the Company or any subsidiary, and neither the Plan nor this agreement shall interfere in any way with the right of the Company or any subsidiary to terminate the service relationship of the Participant with the Company or any subsidiary at any time.

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(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in paragraphs (d) and (e) below, the right to exercise this stock option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this stock option shall be exercisable only to the extent that the Participant was entitled to exercise this stock option on the date of such cessation. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the restrictive covenants (including, without limitation, the non-competition, non-solicitation, or confidentiality provisions) of any employment contract, any non-competition, non-solicitation, confidentiality or assignment agreement to which the Participant is a party, or any other agreement between the Participant and the Company, the right to exercise this stock option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death or Disability. If the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code) prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for "cause" as specified in paragraph (e) below, this stock option shall be exercisable, within the period of one year following the date of death or disability of the Participant, by the Participant (or in the case of death by an authorized transferee), provided that this stock option shall be exercisable only to the extent that this stock option was exercisable by the Participant on the date of his or her death or disability, and further provided that this stock option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant's employment or other service is terminated by the Company for Cause (as defined in below), the right to exercise this stock option shall terminate immediately upon the effective date of such termination of service. If, prior to the Final Exercise Date, the Participant is given notice by the Company of the termination of his or her employment or other service by the Company for Cause, and the effective date of such termination is subsequent to the date of delivery of such notice, the right to exercise this stock option shall be suspended from the time of the delivery of such notice until the earlier of (i) such time as it is determined or otherwise agreed that the Participant's service shall not be terminated for Cause as provided in such notice or (ii) the effective date of such termination of service (in which case the right to exercise this stock option shall, pursuant to the preceding sentence, terminate upon the effective date of such termination of employment). If the Participant is subject to an individual employment, consulting or other service agreement with the Company or eligible to participate in a Company severance plan or arrangement, in any case which agreement, plan or arrangement contains a definition of "cause" for termination of service, "Cause" shall have the meaning ascribed to such term in such agreement, plan or arrangement. Otherwise, "Cause" shall mean willful misconduct by the Participant or willful failure by the Participant to perform his or her responsibilities to the Company (including, without limitation, breach by the Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or other similar agreement between the Participant and the Company), as determined by the Company, which determination shall be conclusive. The Participant's employment or other service shall be considered to have been terminated for Cause if the Company determines, within 30 days after the Participant's resignation, that termination for Cause was warranted.

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4. Tax Matters.

(a) Withholding. No Shares will be issued pursuant to the exercise of this stock option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this stock option.

(b) Disqualifying Disposition. If this stock option is an incentive stock option and the Participant disposes of Shares acquired upon exercise of this stock option within two years from the Grant Date or one year after such Shares were acquired pursuant to exercise of this stock option, the Participant shall notify the Company in writing of such disposition.

5. Transfer Restrictions; Clawback.

(a) This stock option may not be sold, assigned, transferred, pledged, encumbered or otherwise disposed of by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this stock option shall be exercisable only by the Participant.

(b) In accepting this stock option, the Participant agrees to be bound by any clawback policy that the Company has in place or may adopt in the future.

6. Data Privacy Consent. In order to administer the Plan and this agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to social security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this agreement (the "Relevant Information"). By entering into this agreement, the Participant (i) authorizes the Company (including Relevant Companies on its behalf) to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Participant may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Participant shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

7. Provisions of the Plan.

This stock option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this stock option.

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Xilio Therapeutics, Inc.

**NONSTATUTORY STOCK OPTION AGREEMENT**  
**FOR NON-EMPLOYEE DIRECTOR**

Xilio Therapeutics, Inc. (the “Company”) hereby grants the following nonstatutory stock option to the optionee named below pursuant to the Company’s 2021 Stock Incentive Plan (as amended through the date hereof, the “Plan”). The terms and conditions attached hereto are also a part hereof and incorporated herein by reference. This stock option is not intended to be an “incentive stock option” under Section 422 of the Internal Revenue Code of 1986, as amended.

Notice of Grant

<b>Name of Optionee (the “Participant”):</b>	
<b>Grant Date:</b>	
<b>Number of shares of Common Stock subject to this stock option (“Shares”):</b>	
<b>Option Exercise Price per Share:<sup>1</sup></b>	
<b>Vesting Start Date:</b>	
<b>Final Exercise Date:<sup>2</sup></b>	

**Vesting Schedule:**

For so long as Participant remains an Eligible Participant (as defined in Section 3(b) hereof) on the relevant date, this stock option shall vest as set forth below; provided that, if a Participant is an Eligible Participant on the date of the Participant’s death or disability (as defined in Section 3(d) hereof) or due to a change in control of the Company (as defined in Exhibit A), all shares subject to this stock option shall immediately become fully vested effective as of the date of such death, disability or change in control.

Number of Shares	Vest Date

<sup>1</sup> This must be at least 100% of the Grant Date Fair Market Value (as defined in the Plan) of the Common Stock on the date of grant of the option.

<sup>2</sup> The Final Exercise Date must be no more than 10 years from the date of grant for the option.

This stock option satisfies in full all commitments that the Company has to the Participant with respect to the issuance of stock, stock options or other equity securities. Electronic acceptance of this stock option pursuant to the Company's instructions to the Participant (including through an online acceptance process) is acceptable.

**Xilio Therapeutics, Inc.**

**Participant:**

By: \_\_\_\_\_  
Name:  
Title:

\_\_\_\_\_  
Signature of Participant

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Xilio Therapeutics, Inc.

**Nonstatutory Stock Option Agreement for Non-Employee Director  
Incorporated Terms and Conditions**

1. Grant of Option.

This agreement evidences the grant by the Company, on the grant date (the "Grant Date") set forth in the Notice of Grant that forms part of this agreement (the "Notice of Grant"), to the Participant of an option to purchase, in whole or in part, on the terms provided herein and in the Plan, the number of Shares set forth in the Notice of Grant of common stock, \$0.0001 par value per share, of the Company ("Common Stock"), at the exercise price per Share set forth in the Notice of Grant. Unless earlier terminated, this stock option shall expire at 5:00 p.m., Eastern time, on the Final Exercise Date set forth in the Notice of Grant (the "Final Exercise Date").

The option evidenced by this agreement is not intended to be an incentive stock option as defined in Section 422 of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code"). Except as otherwise indicated by the context, the term "Participant", as used in this stock option, shall be deemed to include any person who acquires the right to exercise this stock option validly under its terms.

2. Vesting Schedule.

This option will become exercisable ("vest") in accordance with the vesting schedule set forth in the Notice of Grant.

The right of exercise shall be cumulative so that to the extent the option is not exercised in any period to the maximum extent permissible it shall continue to be exercisable, in whole or in part, with respect to all Shares for which it is vested until the earlier of the Final Exercise Date or the termination of this stock option under Section 3 hereof or the Plan.

3. Exercise of Option.

(a) Form of Exercise. Each election to exercise this stock option shall be in writing delivered to the Company at its principal office or in such other form (which may be electronic) as is approved by the Company, and shall specify the number of Shares to purchased and include payment in full in the manner provided in the Plan. The Participant may purchase less than the number of shares covered hereby, provided that no partial exercise of this stock option may be for any fractional share.

(b) Continuous Relationship with the Company Required. Except as otherwise provided in this Section 3, this stock option may not be exercised unless the Participant, at the time he or she exercises this stock option, is, and has been at all times since the Grant Date, an employee, director or officer of, or consultant or advisor to, the Company or any other entity the employees, officers, directors, consultants, or advisors of which are eligible to receive stock option grants under the Plan ("Eligible Participant"). Notwithstanding anything to the contrary in this agreement, neither the Company nor any subsidiary is obligated, by or as a result of the Plan or this agreement, to continue the Participant in a service relationship with the Company or any subsidiary, and neither the Plan nor this agreement shall interfere in any way with the right of the Company or any subsidiary to terminate the service relationship of the Participant with the Company or any subsidiary at any time.

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(c) Termination of Relationship with the Company. If the Participant ceases to be an Eligible Participant for any reason, then, except as provided in paragraphs (d) and (e) below, the right to exercise this stock option shall terminate three months after such cessation (but in no event after the Final Exercise Date), provided that this stock option shall be exercisable only to the extent that the Participant was entitled to exercise this stock option on the date of such cessation. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, violates the restrictive covenants (including, without limitation, the non-competition, non-solicitation, or confidentiality provisions) of any employment contract, any non-competition, non-solicitation, confidentiality or assignment agreement to which the Participant is a party, or any other agreement between the Participant and the Company, the right to exercise this stock option shall terminate immediately upon such violation.

(d) Exercise Period Upon Death or Disability. If the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code) prior to the Final Exercise Date while he or she is an Eligible Participant and the Company has not terminated such relationship for "cause" as specified in paragraph (e) below, this stock option shall be exercisable, within the period of one year following the date of death or disability of the Participant, by the Participant (or in the case of death by an authorized transferee), provided that this stock option shall be exercisable only to the extent that this stock option was exercisable by the Participant on the date of his or her death or disability, and further provided that this stock option shall not be exercisable after the Final Exercise Date.

(e) Termination for Cause. If, prior to the Final Exercise Date, the Participant's employment or other service is terminated by the Company for Cause (as defined in below), the right to exercise this stock option shall terminate immediately upon the effective date of such termination of service. If, prior to the Final Exercise Date, the Participant is given notice by the Company of the termination of his or her employment or other service by the Company for Cause, and the effective date of such termination is subsequent to the date of delivery of such notice, the right to exercise this stock option shall be suspended from the time of the delivery of such notice until the earlier of (i) such time as it is determined or otherwise agreed that the Participant's service shall not be terminated for Cause as provided in such notice or (ii) the effective date of such termination of service (in which case the right to exercise this stock option shall, pursuant to the preceding sentence, terminate upon the effective date of such termination of employment). If the Participant is subject to an individual employment, consulting or other service agreement with the Company or eligible to participate in a Company severance plan or arrangement, in any case which agreement, plan or arrangement contains a definition of "cause" for termination of service, "Cause" shall have the meaning ascribed to such term in such agreement, plan or arrangement. Otherwise, "Cause" shall mean willful misconduct by the Participant or willful failure by the Participant to perform his or her responsibilities to the Company (including, without limitation, breach by the Participant of any provision of any employment, consulting, advisory, nondisclosure, non-competition or other similar agreement between the Participant and the Company), as determined by the Company, which determination shall be conclusive. The Participant's employment or other service shall be considered to have been terminated for Cause if the Company determines, within 30 days after the Participant's resignation, that termination for Cause was warranted.

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4. Withholding. No Shares will be issued pursuant to the exercise of this stock option unless and until the Participant pays to the Company, or makes provision satisfactory to the Company for payment of, any federal, state or local withholding taxes required by law to be withheld in respect of this stock option.

5. Transfer Restrictions; Clawback.

(a) This option may not be sold, assigned, transferred, pledged, encumbered or otherwise disposed of by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and, during the lifetime of the Participant, this stock option shall be exercisable only by the Participant.

(b) In accepting this stock option, the Participant agrees to be bound by any clawback policy that the Company has in place or may adopt in the future.

6. Data Privacy Consent. In order to administer the Plan and this agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to social security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this agreement (the "Relevant Information"). By entering into this agreement, the Participant (i) authorizes the Company (including Relevant Companies on its behalf) to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Participant may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Participant shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

7. Provisions of the Plan.

This option is subject to the provisions of the Plan (including the provisions relating to amendments to the Plan), a copy of which is furnished to the Participant with this stock option.

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## Exhibit A

### CHANGE IN CONTROL DEFINITION

For purposes of this agreement, “change in control” shall mean the occurrence of any of the following events, provided that such event or occurrence constitutes a change in the ownership or effective control of the Company, or a change in the ownership of a substantial portion of the assets of the Company, as defined in Treasury Regulation §§ 1.409A-3(i)(5)(v), (vi) and (vii):

- (i) the acquisition by an individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934 (the “Exchange Act”) (a “Person”) of beneficial ownership of any capital stock of the Company if, after such acquisition, such Person beneficially owns (within the meaning of Rule 13d-3 under the Exchange Act) fifty percent (50%) or more of either (x) the then-outstanding shares of common stock of the Company (the “Outstanding Company Common Stock”) or (y) the combined voting power of the then-outstanding securities of the Company entitled to vote generally in the election of directors (the “Outstanding Company Voting Securities”); provided, however, that for purposes of this subsection (i), the following acquisitions shall not constitute a Change in Control: (1) any acquisition of capital stock of the Company directly from the Company or (2) any acquisition of capital stock of the Company by any entity pursuant to a Business Combination (as defined below) which complies with clauses (x) and (y) of subsection (iii) of this definition; or
  - (ii) a change in the composition of the Board of Directors of the Company (the “Board”) that results in the Continuing Directors (as defined below) no longer constituting a majority of the Board (or, if applicable, the Board of Directors of a successor corporation to the Company), where the term “Continuing Director” means at any date a member of the Board (x) who was a member of the Board on the date on which the registration statement relating to the Company’s initial public offering is effective (the “Effective Date”) or (y) who was nominated or elected subsequent to such date by at least a majority of the directors who were Continuing Directors at the time of such nomination or election or whose election to the Board was recommended or endorsed by at least a majority of the directors who were Continuing Directors at the time of such nomination or election; provided, however, that there shall be excluded from this clause (y) any individual whose initial assumption of office occurred as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents, by or on behalf of a person other than the Board; or
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- (iii) the consummation of a merger, consolidation, reorganization, recapitalization or share exchange involving the Company, or a sale or other disposition of all or substantially all of the assets of the Company (a "Business Combination"), unless, immediately following such Business Combination, each of the following two (2) conditions is satisfied: (x) all or substantially all of the individuals and entities who were the beneficial owners of the Outstanding Company Common Stock and Outstanding Company Voting Securities immediately prior to such Business Combination beneficially own, directly or indirectly, more than fifty percent (50%) of the then-outstanding shares of common stock and the combined voting power of the then-outstanding securities entitled to vote generally in the election of directors, respectively, of the resulting or acquiring corporation in such Business Combination (which shall include, without limitation, a corporation which as a result of such transaction owns the Company or substantially all of the Company's assets either directly or through one (1) or more subsidiaries) (such resulting or acquiring corporation is referred to herein as the "Acquiring Corporation") in substantially the same proportions as their ownership of the Outstanding Company Common Stock and Outstanding Company Voting Securities, respectively, immediately prior to such Business Combination and (y) no Person (excluding any employee benefit plan (or related trust) maintained or sponsored by the Company or by the Acquiring Corporation) beneficially owns, directly or indirectly, fifty percent (50%) or more of the then-outstanding shares of common stock of the Acquiring Corporation, or of the combined voting power of the then-outstanding securities of such corporation entitled to vote generally in the election of directors (except to the extent that such ownership existed prior to the Business Combination); or
- (iv) the liquidation or dissolution of the Company.
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## Xilio Therapeutics, Inc.

## 2021 EMPLOYEE STOCK PURCHASE PLAN

The purpose of this 2021 Employee Stock Purchase Plan (this "Plan") is to provide eligible employees of Xilio Therapeutics, Inc. (the "Company") and certain of its subsidiaries with opportunities to purchase shares of the Company's common stock, \$0.0001 par value per share (the "Common Stock"), commencing at such time and on such dates as the Board of Directors of the Company (the "Board") shall determine. Subject to adjustment under Section 15 hereof, the number of shares of Common Stock that have been approved for this purpose is the sum of:

(a) 292,031 shares of Common Stock; plus

(b) an annual increase to be added on the first day of each fiscal year, commencing on January 1, 2022 and continuing for each fiscal year until, and including, January 1, 2031, equal to the least of (i) 584,062 shares of Common Stock, (ii) 1% of the outstanding shares on such date and (iii) a number of shares of Common Stock determined by the Board.

This Plan is intended to qualify as an "employee stock purchase plan" as defined in Section 423 of the Internal Revenue Code of 1986, as amended (the "Code"), and the regulations issued thereunder, and shall be interpreted consistent therewith.

1. Administration. The Plan will be administered by the Board or by a committee appointed by the Board (the "Administrator"). The Administrator has authority to (i) make rules and regulations for the administration of the Plan; (ii) interpret the terms and provisions of the Plan; (iii) make all determinations it deems advisable for the administration of the Plan; (iv) decide all disputes arising in connection with the Plan; and (v) otherwise supervise the administration of the Plan, and its interpretation and decisions with regard thereto shall be final and conclusive.

2. Eligibility. All employees of the Company and all employees of any subsidiary of the Company (as defined in Section 424(f) of the Code) designated by the Administrator from time to time (a "Designated Subsidiary"), are eligible to participate in any one or more of the offerings of Options (as defined in Section 9) to purchase Common Stock under the Plan provided that:

- (a) they are customarily employed by the Company or a Designated Subsidiary for more than 20 hours a week and for more than five months in a calendar year;
  - (b) they have been employed by the Company or a Designated Subsidiary for at least three months prior to enrolling in the Plan; and
  - (c) they are employees of the Company or a Designated Subsidiary on the first day of the applicable Plan Period (as defined below).
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No employee may be granted an Option hereunder if such employee, immediately after the Option is granted, owns 5% or more of the total combined voting power or value of the stock of the Company or any subsidiary. For purposes of the preceding sentence, the attribution rules of Section 424(d) of the Code shall apply in determining the stock ownership of an employee, and all stock that the employee has a contractual right to purchase shall be treated as stock owned by the employee.

The Company retains the discretion to determine which eligible employees may participate in an offering pursuant to and consistent with Treasury Regulation Sections 1.4232(e) and (f).

3. **Offerings.** The Company will make one or more offerings (“Offerings”) to employees to purchase stock under this Plan. Offerings will begin at such time and on such dates as the Administrator shall determine, or the first business day thereafter (such dates, the “Offering Commencement Dates”). Each Offering Commencement Date will begin a six-month period (a “Plan Period”) during which payroll deductions will be made and held for the purchase of Common Stock at the end of the Plan Period. However, the Administrator may, at its discretion, choose a different Plan Period of not more than twelve (12) months for Offerings.

4. **Participation.** An employee eligible on the Offering Commencement Date of any Offering may participate in such Offering by completing and forwarding either a written or electronic payroll deduction authorization form to the employee’s appropriate payroll office at least 15 days (or such other number of days as is determined by the Company) prior to the applicable Offering Commencement Date. The form will authorize a regular payroll deduction from the Compensation received by the employee during the Plan Period. Unless an employee files a new form or withdraws from the Plan, his or her deductions and purchases will continue at the same rate for future Offerings under the Plan as long as the Plan remains in effect. The Administrator shall determine what constitutes “Compensation” for purpose of the Plan. In the absence of a determination by the Administrator, the term “Compensation” shall mean the amount of money reportable on the employee’s Federal Income Tax Withholding Statement (or analogous non-U.S. statement), excluding overtime, shift premium, incentive or bonus awards, allowances and reimbursements for expenses such as relocation allowances for travel expenses, income or gains associated with the grant or vesting of restricted stock, income or gains on the exercise of Company stock options or stock appreciation rights, and similar items, whether or not shown or separately identified on the employee’s Federal Income Tax Withholding Statement (or analogous non-U.S. statement), but including, in the case of salespersons, sales commissions to the extent determined by the Administrator.

5. **Deductions.** The Company will maintain payroll deduction accounts for all participating employees. With respect to any Offering made under this Plan, an employee may authorize a payroll deduction in any percentage amount (in whole percentages) at a minimum of 1% up to a maximum of 15% of the Compensation he or she receives during the Plan Period or such shorter period during which deductions from payroll are made. The Administrator may, at its discretion, designate a lower maximum contribution rate. The minimum payroll deduction is such percentage of Compensation as may be established from time to time by the Administrator.

6. Deduction Changes. An employee may decrease or discontinue his or her payroll deduction once during any Plan Period, by filing either a written or electronic new payroll deduction authorization form, as determined by the Company. However, an employee may not increase his or her payroll deduction during a Plan Period. If an employee elects to discontinue his or her payroll deductions during a Plan Period, but does not elect to withdraw his or her funds pursuant to Section 8 hereof, funds deducted prior to his or her election to discontinue will be applied to the purchase of Common Stock on the Exercise Date (as defined below).

7. Interest. Interest will not be paid on any employee accounts, except to the extent that the Administrator, in its sole discretion, elects to credit employee accounts with interest at such rate as it may from time to time determine.

8. Withdrawal of Funds. An employee may at any time prior to the close of business on the fifteenth business day prior to the end of a Plan Period (or such other number of days as is determined by the Company) and for any reason permanently draw out the balance accumulated in the employee's account and thereby withdraw from participation in an Offering. Partial withdrawals are not permitted. The employee may not begin participation again during the remainder of the Plan Period during which the employee withdrew his or her balance. The employee may participate in any subsequent Offering in accordance with terms and conditions established by the Administrator.

9. Purchase of Shares.

(a) Number of Shares. On the Offering Commencement Date for the applicable Plan Period, the Company will grant to each eligible employee who is then a participant in the Plan an option (an "Option") to purchase on the last business day of such Plan Period (the "Exercise Date") at the applicable purchase price (the "Option Price") up to the lesser of (i) 2,500 shares of Common Stock and (ii) the whole number of shares of Common Stock determined by multiplying \$2,083 by the number of full months in the Plan Period and dividing the result by the closing price (as determined below) on the Offering Commencement Date; provided, however, that no employee may be granted an Option which permits his or her rights to purchase Common Stock under this Plan and any other employee stock purchase plan (as defined in Section 423(b) of the Code) of the Company and its subsidiaries, to accrue at a rate which exceeds \$25,000 of the fair market value of such Common Stock (determined at the date such Option is granted) for each calendar year in which the Option is outstanding at any time; and, provided, further, however, that the Administrator may, in its discretion, set a different fixed number of shares of Common Stock that each eligible employee may purchase per Plan Period which number shall not be greater than the number of shares of Common Stock determined using the formula in the first clause of this Section 9(a)(ii), and both of which shall be subject to the second clause of this Section 9(a).

(b) Option Price. The Administrator shall determine the Option Price for each Plan Period, including whether such Option Price shall be determined based on the lesser of the closing price of the Common Stock on (i) the first business day of the Plan Period or (ii) the Exercise Date, or shall be based solely on the closing price of the Common Stock on the Exercise Date; provided, however, that such Option Price shall be at least 85% of the applicable closing price. In the absence of a determination by the Administrator, the Option Price will be 85% of the lesser of the closing price of the Common Stock on (i) the first business day of the Plan Period or (ii) the Exercise Date. The closing price shall be (a) the closing price (for the primary trading session) on any national securities exchange on which the Common Stock is listed or (b) the average of the closing bid and asked prices in the over-the-counter-market, whichever is applicable, as published in The Wall Street Journal or another source selected by the Administrator. If no sales of Common Stock were made on such a day, the price of the Common Stock shall be the reported price for the last preceding day on which sales were made.

(c) Exercise of Option. Each employee who continues to be a participant in the Plan on the Exercise Date shall be deemed to have exercised his or her Option at the Option Price on such date and shall be deemed to have purchased from the Company the number of whole shares of Common Stock reserved for the purpose of the Plan that his or her accumulated payroll deductions on such date will pay for, but not in excess of the maximum numbers determined in the manner set forth above.

(d) Return of Unused Payroll Deductions. Any balance remaining in an employee's payroll deduction account at the end of a Plan Period will be automatically refunded to the employee, except that any balance that is less than the purchase price of one share of Common Stock will be carried forward into the employee's payroll deduction account for the following Offering, unless the employee elects not to participate in the following Offering under the Plan, in which case the balance in the employee's account shall be refunded.

10. Issuance of Certificates. Certificates representing shares of Common Stock purchased under the Plan may be issued only in the name of the employee, in the name of the employee and another person of legal age as joint tenants with rights of survivorship, or (in the Company's sole discretion) in the name of a brokerage firm, bank, or other nominee holder designated by the employee. The Company may, in its sole discretion and in compliance with applicable laws, authorize the use of book entry registration of shares in lieu of issuing stock certificates.

11. Rights on Retirement, Death or Termination of Employment. If a participating employee's employment with the Company or a Designated Subsidiary ends before the last business day of a Plan Period, no payroll deduction shall be taken from any pay then due and owing to the employee and the balance in the employee's account shall be paid to the employee. In the event of the employee's death before the last business day of a Plan Period, the Company shall, upon notification of such death, pay the balance of the employee's account (a) to the executor or administrator of the employee's estate or (b) if no such executor or administrator has been appointed to the knowledge of the Company, to such other person(s) as the Company may, in its discretion, designate. If, before the last business day of the Plan Period, the Designated Subsidiary by which an employee is employed ceases to be a subsidiary of the Company, or if the employee is transferred to a subsidiary of the Company that is not a Designated Subsidiary, the employee shall be deemed to have terminated employment for the purposes of this Plan.

12. Optionees Not Stockholders. Neither the granting of an Option to an employee nor the deductions from his or her pay shall make such employee a stockholder of the shares of Common Stock covered by an Option under this Plan until he or she has purchased and received such shares.

13. Options Not Transferable. Options under this Plan are not transferable by a participating employee other than by will or the laws of descent and distribution, and are exercisable during the employee's lifetime only by the employee.

14. Application of Funds. All funds received or held by the Company under this Plan may be combined with other corporate funds and may be used for any corporate purpose.

15. Adjustment for Changes in Common Stock and Certain Other Events.

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under this Plan, (ii) the share limitations set forth in Section 9, and (iii) the Option Price shall be equitably adjusted to the extent determined by the Administrator.

(b) Reorganization Events.

(1) Definition. A "Reorganization Event" shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled, (b) any transfer or disposition of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Options. In connection with a Reorganization Event, the Administrator may take any one or more of the following actions as to outstanding Options on such terms as the Administrator determines: (i) provide that Options shall be assumed, or substantially equivalent Options shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to employees, provide that all outstanding Options will be terminated immediately prior to the consummation of such Reorganization Event and that all such outstanding Options will become exercisable to the extent of accumulated payroll deductions as of a date specified by the Administrator in such notice, which date shall be ten (10) days preceding the effective date of the Reorganization Event (or such other number of days as is determined by the Administrator), (iii) upon written notice to employees, provide that all outstanding Options will be cancelled as of a date prior to the effective date of the Reorganization Event and that all accumulated payroll deductions will be returned to participating employees on such date, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the "Acquisition Price"), change the last day of the Plan Period to be the date of the consummation of the Reorganization Event and make or provide for a cash payment to each employee equal to (A) (1) the Acquisition Price times (2) the number of shares of Common Stock that the employee's accumulated payroll deductions as of immediately prior to the Reorganization Event could purchase at the Option Price, where the Acquisition Price is treated as the fair market value of the Common Stock on the last day of the applicable Plan Period for purposes of determining the Option Price under Section 9(b) hereof, and where the number of shares that could be purchased is subject to the limitations set forth in Section 9(a), minus (B) the result of multiplying such number of shares by such Option Price, (v) provide that, in connection with a liquidation or dissolution of the Company, Options shall convert into the right to receive liquidation proceeds (net of the Option Price thereof) and (vi) any combination of the foregoing.

For purposes of clause (i) above, an Option shall be considered assumed if, following consummation of the Reorganization Event, the Option confers the right to purchase, for each share of Common Stock subject to the Option immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); provided, however, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise of Options to consist solely of such number of shares of common stock of the acquiring or succeeding corporation (or an affiliate thereof) that the Board determines to be equivalent in value (as of the date of such determination or another date specified by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

16. Amendment of the Plan. The Board may at any time, and from time to time, amend or suspend this Plan or any portion thereof, except that (a) if the approval of any such amendment by the stockholders of the Company is required by Section 423 of the Code, such amendment shall not be effected without such approval, and (b) in no event may any amendment be made that would cause the Plan to fail to comply with Section 423 of the Code.

17. Insufficient Shares. If the total number of shares of Common Stock specified in elections to be purchased under any Offering plus the number of shares purchased under previous Offerings under this Plan exceeds the maximum number of shares issuable under this Plan, the Administrator will allot the shares then available on a pro-rata basis.

18. Termination of the Plan. This Plan may be terminated at any time by the Board. Upon termination of this Plan all amounts in the accounts of participating employees shall be promptly refunded.

19. Governmental Regulations. The Company's obligation to sell and deliver Common Stock under this Plan is subject to listing on a national stock exchange (to the extent the Common Stock is then so listed or quoted) and the approval of all governmental authorities required in connection with the authorization, issuance or sale of such stock.

20. Governing Law. The Plan shall be governed by Delaware law except to the extent that such law is preempted by federal law.

21. Issuance of Shares. Shares may be issued upon exercise of an Option from authorized but unissued Common Stock, from shares held in the treasury of the Company, or from any other proper source.

22. Notification upon Sale of Shares. Each employee agrees, by participating in the Plan, to promptly give the Company notice of any disposition of shares purchased under the Plan where such disposition occurs within two years after the date of grant of the Option pursuant to which such shares were purchased.

23. Grants to Employees in Foreign Jurisdictions. The Company may, to comply with the laws of a foreign jurisdiction, grant Options to employees of the Company or a Designated Subsidiary who are citizens or residents of such foreign jurisdiction (without regard to whether they are also citizens of the United States or resident aliens (within the meaning of Section 7701(b)(1)(A) of the Code)) with terms that are less favorable (but not more favorable) than the terms of Options granted under the Plan to employees of the Company or a Designated Subsidiary who are resident in the United States. Notwithstanding the preceding provisions of this Plan, employees of the Company or a Designated Subsidiary who are citizens or residents of a foreign jurisdiction (without regard to whether they are also citizens of the United States or resident aliens (within the meaning of Section 7701(b)(1)(A) of the Code)) may be excluded from eligibility under the Plan if (a) the grant of an Option under the Plan to a citizen or resident of the foreign jurisdiction is prohibited under the laws of such jurisdiction or (b) compliance with the laws of the foreign jurisdiction would cause the Plan to violate the requirements of Section 423 of the Code. The Company may add one or more appendices to this Plan describing the operation of the Plan in those foreign jurisdictions in which employees are excluded from participation or granted less favorable Options.

24. Authorization of Sub-Plans. The Administrator may from time to time establish one or more sub-plans under the Plan with respect to one or more Designated Subsidiaries, provided that such sub-plan complies with Section 423 of the Code.

25. Withholding. If applicable tax laws impose a tax withholding obligation, each affected employee shall, no later than the date of the event creating the tax liability, make provision satisfactory to the Administrator for payment of any taxes required by law to be withheld in connection with any transaction related to Options granted to or shares acquired by such employee pursuant to the Plan. The Company may, to the extent permitted by law, deduct any such taxes from any payment of any kind otherwise due to an employee.

26. Effective Date and Approval of Stockholders. The Plan shall take effect as of immediately prior to the effectiveness of the Company's registration statement with respect to its initial public offering, subject to approval by the stockholders of the Company as required by Section 423 of the Code, which approval must occur within twelve months of the adoption of the Plan by the Board.

**Adopted by the Board of Directors on September 10, 2021**

**Approved by the stockholders on October 12, 2021**

SERVICE AGREEMENT

THIS SERVICE AGREEMENT (this "Agreement"), made this 11<sup>th</sup> day of June, 2020, is entered into by Xilio Therapeutics Inc., a Delaware corporation (the "Company"), and Daniel S. Lynch (the "Director").

INTRODUCTION

The Company and the Director desire to establish the terms and conditions under which the Director will serve as the Chairman of the boards of directors of the Company Entities (as defined below).

It is anticipated that on or about June 30, 2020, the Company and its parent company, Xilio Therapeutics LLC (the "LLC Parent"), will undergo a restructuring pursuant to which a wholly owned subsidiary of a corporation newly formed under the laws of Delaware (such newly formed corporation, the "Ultimate Corporate Parent") will be merged with and into the LLC Parent, with the LLC Parent becoming a wholly owned subsidiary of the Ultimate Corporate Parent and the current equityholders of the LLC Parent receiving in such transaction shares of capital stock of the Ultimate Corporate Parent (the "Restructuring").

In consideration of the mutual covenants and promises contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the parties hereto, the parties agree as follows:

1. Services. The Director agrees to serve as Chairman of the Boards (as defined below) and to provide related advisory and oversight services to and for the Company as may be reasonably requested from time to time by the Boards, the Company, the LLC Parent and, following the effectiveness of the Restructuring, the Ultimate Corporate Parent relating to their ongoing operations and strategic matters. Such services shall be performed at such times and places as shall be mutually agreed to by the Company and the Director. The Company agrees to cause the Director (a) to be elected, promptly after the execution and delivery of this Agreement, to (i) the Board of Directors (as defined in the Fourth Amended and Restated Limited Liability Company Agreement of the LLC Parent, dated as of December 12, 2019, as amended to date) of the LLC Parent (the "LLC Parent Board"), (ii) the Board of Directors of the Company (the "Company Board"), (iii) upon the effectiveness of the Restructuring, the Board of Directors of the Ultimate Corporate Parent (the "Ultimate Corporate Parent Board"), and together with the LLC Parent Board and the Company Board, the "Boards") and (iv) the Compensation Committee of whichever of the LLC Parent Board, the Company Board or the Ultimate Corporate Parent Board that, from time to time, has a committee that principally makes compensation decisions with respect to the Company Entities (such committee, the "Compensation Committee") and (b) to be appointed as Chairman of the LLC Parent Board, Chairman of the Company Board, Chairman of the Compensation Committee and, upon the effectiveness of the Restructuring, Chairman of the Ultimate Corporate Parent Board, and the Director agrees to serve in such capacities. The Director shall serve as Chairman of the LLC Parent Board, the Company Board and, from and after the effectiveness of the Restructuring, the Ultimate Corporate Parent Board, in each case until his resignation, retirement or removal as Chairman of the applicable Board in accordance with the bylaws or organizational documents that are then applicable to such entity.



2. Term. This Agreement shall commence on the date hereof and shall continue until terminated in accordance with the provisions of Section 4 (the "Service Period").

3. Compensation.

3.1 Director Fees. During the Service Period, the Company shall pay to the Director fees for his service as a director of \$20,833.33 per month (\$250,000 on an annual basis (the "Cash Compensation")), payable in arrears on the last day of each month. Payment for any partial month during the Service Period shall be prorated. The Company and the Director acknowledge and agree that the Cash Compensation shall be for the Director's service as a director.

3.2 Equity Compensation.

(a) Initial Equity Grant. As soon as practicable after the effectiveness of the Restructuring, the Ultimate Corporate Parent shall grant the Director a stock option (the "Initial Option") for the purchase of 1,280,572 shares of common stock of the Ultimate Corporate Parent (the "Initial Shares") at a purchase price per share equal to the fair market value per share of common stock of the Ultimate Corporate Parent on the date of grant as determined by the Ultimate Corporate Parent Board based on the results of a Section 409A valuation. The Company hereby represents and warrants that the Initial Shares will represent a one and one half percent (1.5%) ownership interest in the Ultimate Corporate Parent as of the date of grant (based on the number of shares of common stock of the Ultimate Corporate Parent then outstanding, assuming the issuance of all shares of capital stock reserved for future issuance under any stock incentive plan of the Ultimate Corporate Parent, the exercise of all outstanding options, warrants and other rights to purchase capital stock of the Ultimate Corporate Parent and the conversion of all securities convertible, directly or indirectly, into common stock of the Ultimate Corporate Parent (the method of such calculation, a "Fully Diluted Basis")). Subject to the acceleration provisions set forth in Sections 3.2(c) and 3.5, the Initial Option will vest, starting on the date hereof (the "Vesting Commencement Date"), at the rate of 1/48th of the Initial Shares for each consecutive month that the Director continues to provide services to the Ultimate Corporate Parent or any of its parent companies or subsidiaries, including the LLC Parent and the Company (collectively, the "Company Entities"), from and after the Vesting Commencement Date until the date that is four (4) full years after the Vesting Commencement Date, at which time, subject to the Director's continued service, the Initial Option will be fully vested.

(b) Additional Equity Grants. In addition, for so long as the Director continues to provide services to any Company Entity, the Ultimate Corporate Parent shall grant the Director one or more additional stock options (the "Additional Options") for the purchase of additional shares of common stock of the Ultimate Corporate Parent (the "Additional Shares") on the terms and subject to the conditions set forth in this Section 3.2(b). The Ultimate Corporate Parent shall grant the Director an Additional Option in connection with each issuance by the Ultimate Corporate Parent of any of its equity securities that causes the Initial Shares and any Additional Shares subject to outstanding Additional Options or issued to the Director pursuant to the exercise of Additional Options collectively to represent, immediately following such issuance, less than a one and one half percent (1.5%) overall ownership position in the Ultimate Corporate Parent, calculated on a Fully Diluted Basis (each, a "Dilutive Issuance"). The number of Additional Shares purchasable pursuant to the Additional Option to be issued in connection with each Dilutive Issuance shall equal the number of whole shares of common stock of the Ultimate Corporate Parent necessary for the Director to maintain a one and one half percent (1.5%) overall ownership position in the Ultimate Corporate Parent after such Dilutive Issuance and the grant of such Additional Option (calculated on a Fully Diluted Basis). The per share exercise price of each Additional Option will be equal to the fair market value of one share of common stock of the Ultimate Corporate Parent at the time of the grant of such Additional Option. An Additional Option will be issued concurrently with or as soon as reasonably practicable after each Dilutive Issuance. Subject to the acceleration provisions set forth in Sections 3.2(c) and 3.5 hereof, each Additional Option will vest over four (4) years, calculated using the Vesting Commencement Date as the start date of such vesting, at the rate of 1/48th of the applicable Additional Shares for each consecutive month that the Director continues to provide services to any Company Entity until the date that is four (4) full years after the Vesting Commencement Date, at which time, subject to the Director's continued service, such Additional Option will be fully vested. The obligation of the Ultimate Corporate Parent to grant Additional Options pursuant to this Section 3.2(b) shall terminate immediately prior to the initial underwritten public offering of the Ultimate Corporate Parent's common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO").

(c) Acceleration. Notwithstanding the vesting schedules of the Initial Option and any Additional Options, upon an Acceleration Event (as defined below), the vesting schedule of the Initial Option and any Additional Options shall be accelerated in full and the Initial Option and any Additional Options shall be immediately exercisable with respect to the full number of Initial Shares and Additional Shares, respectively. An "Acceleration Event" means, regardless of form thereof, consummation of (a) the sale of all or substantially all of the assets of the Company Entities on a consolidated basis to an unrelated person or entity, (b) a merger, reorganization or consolidation in which the outstanding shares of capital stock of the Ultimate Corporate Parent are converted into or exchanged for securities of the successor entity and the holders of the Ultimate Corporate Parent's outstanding voting power immediately prior to such transaction do not own, in substantially the same proportions, a majority of the outstanding voting power of the successor entity immediately upon completion of such transaction, (c) the sale of all or a majority of the outstanding capital stock of the Ultimate Corporate Parent in a single transaction or series of related transactions to an unrelated person or entity, (d) any other transaction in which the owners of the Ultimate Corporate Parent's outstanding voting power immediately prior to such transaction do not own, in substantially the same proportions, a majority of the outstanding voting power of the successor entity immediately upon completion of the transaction (the events described in clauses (a) through (d), a "Sale") or (e) an IPO in connection with which (i) the Director ceases to serve as the Chairman of the Ultimate Corporate Parent Board (or, in the event that the Restructuring has not been completed, of the LLC Parent Board or its successor entity) and (ii) the Ultimate Corporate Parent (or the LLC Parent or its successor entity) does not offer to engage the Director as an advisor through the date that is four (4) full years after the Vesting Commencement Date on fair and reasonable terms and in a manner that, if Director were to accept such offer, would result in the Initial Option and any Additional Options continuing to vest following the Director ceasing to serve as Chairman.

(d) No Restructuring. In the event that the Restructuring has not been effected prior to July 15, 2020, on such date the LLC Parent shall issue a profits interest to the Director that reflects, *mutatis mutandis*, the terms of the Initial Option set forth in Section 3.2(a). Further, in the event that the Restructuring has not been effected prior to July 15, 2020, then, following the issuance of the profits interest that reflects the terms of the Initial Option and for so long as the Restructuring has not become effective, in connection with each issuance by the LLC Parent of any of its equity securities that would, if such issuance were instead issued by the Ultimate Corporate Parent after the Restructuring, constitute a Dilutive Issuance, the LLC Parent shall issue a profits interest to the Director that reflects, *mutatis mutandis*, the terms of the Additional Option that would have been issued in connection with such issuance, as set forth in Section 3.2(b). The acceleration provisions set forth in Sections 3.2(c) and 3.5 hereof shall apply to each profits interest, if any, issued in accordance with this Section 3.2(d).

3.3 Reimbursement of Expenses. The Company shall reimburse the Director for all reasonable, documented, out-of-pocket expenses incurred or paid by the Director in connection with, or related to, the performance of his duties, responsibilities or services under this Agreement, including a pro rata portion of Director's out-of-pocket administrative support expenses and other general business expenses incurred or paid by the Director generally in connection with his chairman or senior executive positions with the Company Entities and other companies (determined on the basis of the total number of chairman or senior executive positions from time to time held by the Director). The Director shall submit to the Company documentation, expense statements and other supporting evidence as the Company may reasonably request from the Director and an itemized monthly statement of such expenses incurred in the previous month. The Company shall pay to the Director amounts shown on each such statement within thirty (30) days after receipt thereof. Without limiting the foregoing, the Company shall pay the reasonable and documented fees and expenses of The Moulton Law Group, PLLC, counsel for the Director, incurred in connection with the engagement of the Director by the Company and the related equity grants to the Director contemplated herein, not to exceed \$7,500.

3.4 Benefits. The Director shall not be entitled to any benefits, coverages or privileges, including, without limitation, social security, unemployment, medical or pension payments, made available to employees of the Company.

3.5 Termination Payment and Vesting Acceleration.

(a) In the event the Director ceases to serve as Chairman of the LLC Parent Board, the Company Board and, if applicable, the Ultimate Corporate Parent Board, then (i) the Director shall be entitled to Cash Compensation that would have been payable to the Director pursuant to Section 3.1 during the Post Termination Period (but only to the extent not already paid) (the "Termination Payment"), which amount shall be paid in a lump sum within fifteen (15) days following the Effective Date, and (ii) the Initial Option and the Additional Option, if any, that would have vested during the Post Termination Period if the Director has not ceased serving as Chairman of the LLC Parent Board, the Company Board and, if applicable, the Ultimate Corporate Parent Board shall vest and become exercisable (the "Termination Accelerated Vesting").

(b) For purposes of this Agreement, "Post Termination Period" shall mean a period immediately following the date that the Director ceases to serve as Chairman of the LLC Parent Board, the Company Board and, if applicable, the Ultimate Corporate Parent Board of twelve (12) successive months.

4. Termination. This Agreement shall automatically terminate upon the date that the Director ceases to serve as Chairman of the LLC Parent Board, the Company Board and, if applicable, the Ultimate Corporate Parent Board. In the event of the termination of this Agreement, the Director shall be entitled to (a) (i) payment of his Cash Compensation accrued through the effective date of such termination, (ii) payment for expenses paid or incurred prior to the effective date of termination and (iii) payment of the Termination Payment, and (b) the Termination Accelerated Vesting.

5. Cooperation. The Director shall use his best efforts in the performance of his obligations under this Agreement. The Company shall provide such access to its information and property as may be reasonably required in order to permit the Director to perform his obligations hereunder. The Director shall cooperate with the Company's personnel and shall observe all rules, regulations and security requirements of the Company concerning the safety of persons and property.

6. Proprietary Information and Inventions.

6.1 Proprietary Information.

(a) The Director acknowledges that his relationship with the Company is one of high trust and confidence and that in the course of his service to the Company he will have access to and contact with Proprietary Information. The Director will not disclose any Proprietary Information to any person or entity other than employees of the Company or use the same for any purposes (other than in the performance of his duties as director of the Company Entities) without written approval by an officer of the Company, either during or after the Service Period, unless and until such Proprietary Information has become public knowledge without fault by the Director.

(b) For purposes of this Agreement, "Proprietary Information" shall mean, by way of illustration and not limitation, all information, whether or not in writing, whether or not patentable and whether or not copyrightable, of a private, secret or confidential nature, owned, possessed or used by the Company Entities, concerning the Company Entities' business, business relationships or financial affairs, including, without limitation, any Invention (as defined below), formula, vendor information, customer information, apparatus, equipment, trade secret, process, research, report, technical or research data, clinical data, know-how, computer program, software, software documentation, hardware design, technology, product, processes, methods, techniques, formulas, compounds, projects, developments, marketing or business plan, forecast, unpublished financial statement, budget, license, price, cost, customer, supplier or personnel information or employee list that is communicated to, learned of, developed or otherwise acquired by the Director in the course of performing his service to the Company.

(c) The Director's obligations under this Section 6.1 shall not apply to any information that (i) is or becomes known to the general public under circumstances involving no breach by the Director of the terms of this Section 6.1, (ii) is generally disclosed to third parties by the Company without restriction on such third parties, or (iii) is approved for release by written authorization of an officer of the Company.

(d) The Director agrees that all files, documents, letters, memoranda, reports, records, data sketches, drawings, models, laboratory notebooks, program listings, computer equipment or devices, computer programs or other written, photographic, or other tangible material containing Proprietary Information, whether created by the Director or others, which shall come into his custody or possession, shall be and are the exclusive property of the Company to be used by the Director only in the performance of his service to the Company and shall not be copied or removed from the Company premises except in the pursuit of the business of the Company. All such materials or copies thereof and all tangible property of the Company in the custody or possession of the Director shall promptly be delivered to the Company, upon the earlier of (i) a request by the Company or (ii) the termination of this Agreement. After such delivery, the Director shall not retain any such materials or copies thereof or any such tangible property.

(e) The Director agrees that his obligation not to disclose or to use information and materials of the types set forth in paragraphs (b) and (d) above, and his obligation to return materials and tangible property set forth in paragraph (d) above extends to such types of information, materials and tangible property of customers of the Company or suppliers to the Company or other third parties who may have disclosed or entrusted the same to the Company or to the Director.

(f) The Director acknowledges that any of the Company Entities from time to time may have agreements with other persons or with the United States Government, or agencies thereof, that impose obligations or restrictions on such party regarding inventions made during the course of work under such agreements or regarding the confidential nature of such work. The Director agrees to be bound by all such obligations and restrictions that are known to him and to take all action necessary to discharge the obligations of the Company Entities under such agreements.

## 6.2 Inventions.

(a) All inventions, creations, discoveries, computer programs, data, developments, technology, designs, innovations and improvements (whether or not patentable and whether or not copyrightable) which are made, conceived, reduced to practice, created, written, designed or developed by the Director, solely or jointly with others or under his direction and whether during normal business hours or otherwise, (i) during the Service Period if made, conceived, reduced to practice, created, written, designed or developed in the course of Director's performance of duties pursuant to this Agreement or (ii) during or after the Service Period if resulting or directly derived from Proprietary Information (collectively under clauses (i) and (ii), "Inventions"), shall be the sole property of the Company. The Director hereby assigns and transfers and, to the extent any such assignment cannot be made at present, will assign and transfer, to the Company all Inventions and any and all related patents, copyrights, trademarks, trade names, and other industrial and intellectual property rights and applications therefor, in the United States and elsewhere and appoints any officer of the Company as his duly authorized attorney to execute, file, prosecute and protect the same before any government agency, court or authority.

(b) Upon the request of the Company and at the Company's expense, the Director shall execute such further assignments, documents and other instruments as may be necessary or desirable to fully and completely assign all Inventions to the Company and to assist the Company in applying for, obtaining and enforcing patents or copyrights or other rights in the United States and in any foreign country with respect to any Invention. The Director also hereby waives all claims to moral rights in any Inventions.

(c) The Director shall promptly disclose to the Company all Inventions and will maintain adequate and current written records (in the form of notes, sketches, drawings and as may be specified by the Company) to document the conception and/or first actual reduction to practice of any Invention. Such written records shall be available to and remain the sole property of the Company at all times.

6.3 Remedies. The Director acknowledges that any breach of the provisions of this Section 6 shall result in serious and irreparable injury to the Company Entities for which such parties cannot be adequately compensated by monetary damages alone. The Director agrees, therefore, that, in addition to any other remedy it may have, each Company Entity shall be entitled to enforce the specific performance of this Section 6 by the Director and to seek both temporary and permanent injunctive relief (to the extent permitted by law) without the necessity of proving actual damages.

7. Independent Contractor Status. The Director shall perform all services under this Agreement as an "independent contractor" and not as an employee or agent of the Company.

8. Notices. All notices required or permitted under this Agreement shall be in writing and shall be deemed effective upon personal delivery or three days after deposit in the United States Post Office, by registered or certified mail (return receipt requested), postage prepaid, addressed to the other party at the address shown above, or at such other address or addresses as either party shall designate to the other in accordance with this Section 8.

9. Pronouns. Whenever the context may require, any pronouns used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular forms of nouns and pronouns shall include the plural, and vice versa.

10. Entire Agreement. This Agreement constitutes the entire agreement between the parties and supersedes all prior agreements and understandings, whether written or oral, relating to the subject matter of this Agreement.

11. Third-Party Beneficiary. Each of the LLC Parent and, following the effectiveness of the Restructuring, the Ultimate Corporate Parent shall be an express third-party beneficiary of this Agreement.

12. Amendment. This Agreement may be amended or modified only by a written instrument executed by both the Company and the Director.

13. Governing Law. This Agreement shall be construed, interpreted and enforced in accordance with the laws of the Commonwealth of Massachusetts.

14. Successors and Assigns. This Agreement shall be binding upon, and inure to the benefit of, both parties and their respective successors and assigns, including any corporation with which, or into which, the Company may be merged or which may succeed to its assets or business, provided, however, that the obligations of the Director are personal and shall not be assigned by him.

15. Survival. Section 3.5 and Sections 4 through 16 shall survive the expiration or termination of this Agreement.

16. Miscellaneous.

16.1 No delay or omission by the Company in exercising any right under this Agreement shall operate as a waiver of that or any other right. A waiver or consent given by the Company on any one occasion shall be effective only in that instance and shall not be construed as a bar or waiver of any right on any other occasion.

16.2 The captions of the sections of this Agreement are for convenience of reference only and in no way define, limit or affect the scope or substance of any section of this Agreement.

16.3 In the event that any provision of this Agreement shall be invalid, illegal or otherwise unenforceable, the validity, legality and enforceability of the remaining provisions shall in no way be affected or impaired thereby.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year set forth above.

XILIO THERAPEUTICS INC.

By: /s/ René Russo

Name: René Russo

Title: CEO

DIRECTOR

/s/ Daniel S. Lynch

Daniel S. Lynch

[SIGNATURE PAGE TO SERVICE AGREEMENT]

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**Amendment No. 1 to  
Service Agreement**

This Amendment No. 1 to Service Agreement, dated October 17, 2021 (this "Amendment"), is entered into by and between Xilio Therapeutics, Inc., a Delaware corporation (the "Company" or "Ultimate Corporate Parent"), and Daniel S. Lynch (the "Director"), and amends that certain Service Agreement, dated as of June 11, 2020, between the Company and the Director (the "Agreement"). Capitalized terms used but not otherwise defined herein shall have the meaning given to them in the Agreement.

WHEREAS, effective upon the Amendment Effective Date (as defined below), the parties desire to amend certain compensation terms in the Agreement;

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged by the parties hereto, the Company and the Director hereby agree as follows:

1. Section 3.1 is amended and restated in its entirety as follows:

3.1 Director Fees. During the period beginning on June 11, 2020 and terminating at the Amendment Effective Time (as defined below) (the "Director Fee Period"), the Company shall pay to the Director fees for his service as a director of \$20,833.33 per month (\$250,000 on an annual basis (the "Cash Compensation")), payable in arrears on the last day of each month. Payment for any partial month during the Director Fee Period shall be prorated. The Company and the Director acknowledge and agree that the Cash Compensation shall be for the Director's service as a director prior to the Amendment Effective Time. For the avoidance of doubt, on and after the Amendment Effective Time, for so long as the Director serves as a director on the Ultimate Corporate Parent Board, the Director shall be entitled to cash compensation for such service in accordance with the non-employee director compensation policy then in effect.

2. Clause (e) of Section 3.2(c) is amended and restated in its entirety as follows:

(e) the Director ceasing to serve as the Chairman of the Ultimate Corporate Parent Board and, in connection with such cessation, the Ultimate Corporate Parent not offering to engage the Director as an advisor through the date that is four (4) full years after the Vesting Commencement Date on fair and reasonable terms and in a manner that, if the Director were to accept such offer, would result in the Initial Option and any Additional Options continuing to vest following the Director ceasing to serve as Chairman (such engagement as an advisor, the "Advisory Engagement").

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3. Section 3.5 is amended by inserting the following new subsection (c) at the end of Section 3.5:

(c) Notwithstanding Section 3.5(a) and Section 3.5(b), in the event that the Director ceases to serve as the Chairman of the Ultimate Corporate Parent Board and the Ultimate Corporate Parent offers, and the Director accepts, the Advisory Engagement, the Director shall not be entitled to the Termination Accelerated Vesting at the time the Director ceases to serve as the Chairman of the Ultimate Corporate Parent Board and the Director shall be entitled to the Termination Accelerated Vesting only if and when the Ultimate Corporate Parent terminates the Advisory Engagement. For such purpose, the Terminated Accelerated Vesting will be the acceleration of the vesting of that portion of the Initial Option and the Additional Options, if any, that would have vested during the twelve-month period following such termination of the Advisory Engagement had the Director not ceased serving under the Advisory Engagement during such period.

4. This Amendment shall be effective immediately prior to, but conditioned upon, the effectiveness of the registration statement on Form S-1 (File No. 333-259973) filed with the U.S. Securities and Exchange Commission in connection with the underwritten initial public offering of the Company's common stock (the "Amendment Effective Date"). On and after the Amendment Effective Date, each reference in the Agreement to "this Agreement," "hereunder," "hereof," "herein" or words of like import shall mean and be a reference to the Agreement, as amended by this Amendment.

5. Except as amended hereby, the Agreement shall remain in full force and effect.

6. This Amendment shall be construed, interpreted and enforced in accordance with the laws of the Commonwealth of Massachusetts.

7. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. Federal ESIGN Act of 2000) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

*[Remainder of Page Intentionally Left Blank]*

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment effective as of the Amendment Effective Date.

**Xilio Therapeutics, Inc.**

By: /s/ René Russo  
Name: René Russo  
Title: President and Chief Executive Officer

**Director:**

/s/ Daniel S. Lynch  
Daniel S. Lynch

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**Consent of Independent Registered Public Accounting Firm**

We consent to the reference to our firm under the caption “Experts” and to the use of our report dated May 24, 2021 (except Note 18(f), as to which the date is October 18, 2021) in Amendment 1 to the Registration Statement (Form S-1 No. 333-259973) and the related Prospectus of Xilio Therapeutics, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

Boston, Massachusetts  
October 18, 2021

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