UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of report (Date of earliest event reported): **December 7, 2023**

Xilio Therapeutics, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-40925**	**85-1623397**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

828 Winter Street, Suite 300 **Waltham, Massachusetts** (Address of Principal Executive Offices)	**02451** (Zip Code)

Registrant's telephone number, including area code: **(857) 524-2466**

Not applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common stock, par value $0.0001 per share	**XLO**	**Nasdaq Global Select Market**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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 13(a) of the Exchange Act. ☐

Item 8.01 Other Events.

On December 7, 2023, Xilio Therapeutics, Inc. (the "Company") issued a press release announcing additional data from its ongoing Phase 1 clinical trial evaluating XTX101 in patients with advanced solid tumors. These data were presented at the European Society for Medical Oncology Immuno-Oncology Congress on December 7, 2023. The full text of the press release is filed as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference. The information contained on, or accessible through, the websites referenced in the press release is not incorporated by reference into this Current Report on Form 8-K and should not be considered to be a part hereof.

Cautionary Note Regarding Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, statements regarding plans, timing and expectations related to: completing the Phase 1 combination dose escalation and selection of a recommended Phase 2 dose for XTX101 in combination with atezolizumab; initiating a Phase 2 clinical trial to evaluate XTX101 in combination with atezolizumab in patients with microsatellite stable colorectal cancer; plans and anticipated milestones for XTX101 in 2024, subject to obtaining sufficient additional capital; the potential benefits of any of the Company's current or future product candidates in treating patients; and the Company's strategy, goals and anticipated financial performance, milestones, business plans and focus. The words "aim," "may," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "believe," "estimate," "predict," "project," "potential," "continue," "seek," "target" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forward-looking statements in this Current Report on Form 8-K are based on management's current expectations and beliefs and are subject to a number of important risks, uncertainties and other factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this Current Report on Form 8-K, including, without limitation, risks and uncertainties related to: ongoing and planned research and development activities, including initiating, conducting or completing preclinical studies and clinical trials and the timing and results of such preclinical studies or clinical trials; the delay of any current or planned preclinical studies or clinical trials or the development of the Company's current or future product candidates; the Company's ability to obtain and maintain sufficient preclinical and clinical supply of current or future product candidates; the Company's advancement of multiple early-stage programs; interim or preliminary preclinical or clinical data or results, which may not be replicated in or predictive of future preclinical or clinical data or results; the Company's ability to successfully demonstrate the safety and efficacy of its product candidates and gain approval of its product candidates on a timely basis, if at all; the potential for results from preclinical studies or clinical trials for the Company's product candidates not supporting further development of such product candidates; actions of regulatory agencies, which may affect the initiation, timing and progress of current or future clinical trials; the Company's ability to obtain, maintain and enforce patent and other intellectual property protection for current or future product candidates; the Company's ability to obtain and maintain sufficient cash resources to fund its operations beyond the end of the second quarter of 2024; the impact of international trade policies on the Company's business, including U.S. and China trade policies; and the Company's ability to maintain its clinical trial collaboration with Roche to develop XTX101 in combination with atezolizumab. These and other risks and uncertainties are described in greater detail in the sections entitled "Risk Factor Summary" and "Risk Factors" in the Company's filings with the U.S. Securities and Exchange Commission ("SEC"), including the Company's most recent Quarterly Report on Form 10-Q and any other filings that the Company has made or may make with the SEC in the future. Any forward-looking statements contained in this Current Report on Form 8-K represent the Company's views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date. Except as required by law, the Company explicitly disclaims any obligation to update any forward-looking statements.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Press release issued by Xilio Therapeutics, Inc. on December 7, 2023
104	Cover Page Interactive Data File (embedded within the Inline XBRL document and incorporated as Exhibit 101)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

XILIO THERAPEUTICS, INC.

Date: December 7, 2023

By: /s/ Chris Frankenfield
Chris Frankenfield
Chief Operating Officer

Xilio Therapeutics Announces Initiation of Enrollment for Phase 1 Combination Trial of XTX101, a Tumor-Activated, Fc-Enhanced Anti-CTLA-4, and Updated Phase 1 Monotherapy Data

Phase 1 combination dose escalation expected to support planned Phase 2 trial in microsatellite stable colorectal cancer (MSS CRC)

Updated Phase 1 monotherapy data for XTX101 at the recommended Phase 2 dose (RP2D) continues to demonstrate minimal treatment-related adverse events, consistent with tumor-activated molecule design, and a 33% disease control rate across a range of late-line and IO refractory advanced solid tumors

Previously reported confirmed partial response with XTX101 monotherapy in patient with advanced PD-L1 negative NSCLC continued through 36 weeks, including complete resolution of liver metastases

WALTHAM, Mass., December 7, 2023 – Xilio Therapeutics, Inc. (Nasdaq: XLO), a clinical-stage biotechnology company discovering and developing tumor-activated immuno-oncology therapies for people living with cancer, today announced the initiation of enrollment for its Phase 1 clinical trial of XTX101, an investigational tumor-activated, Fc-enhanced anti-CTLA-4, in combination with atezolizumab and reported updated monotherapy data from its ongoing Phase 1 clinical trial evaluating XTX101 in late-line patients with advanced and immuno-oncology (IO) refractory solid tumors. The data were presented at the European Society for Medical Oncology (ESMO) Immuno-Oncology Congress on December 7, 2023.

“With the recent initiation of Phase 1 dose escalation for XTX101 in combination with atezolizumab, we look forward to establishing a recommended Phase 2 dose in support of our plans to evaluate the combination in a Phase 2 trial in patients with microsatellite stable colorectal cancer (MSS CRC), including patients with liver metastases where there is an especially significant unmet need,” said Katarina Luptakova, M.D., chief medical officer of Xilio. “The new Phase 1 data we reported for XTX101, which include 18 patients treated at the recommended Phase 2 dose of 150 mg Q6W, continue to demonstrate XTX101’s promising safety profile with primarily Grade 1 or 2 treatment-related adverse events. In addition to the previously reported confirmed partial response in a non-small cell lung cancer patient through 36 weeks, these new data also suggest further evidence of monotherapy anti-tumor activity in late-line and IO refractory patients at the recommended Phase 2 dose.”

Updated Data from the Ongoing Phase 1 Clinical Trial for XTX101

As of the data cutoff date of November 13, 2023, 36 patients with advanced solid tumors had been administered XTX101 monotherapy, including 18 patients at the recommended Phase 2 dose and schedule (RP2D) of 150 mg once every six weeks (Q6W).

Patients treated at the RP2D of 150 mg Q6W were heavily pre-treated, with 83% of patients receiving three or more lines of anti-cancer therapy and 56% previously treated with an immunotherapy.

Preliminary Safety Data

At the RP2D of 150 mg Q6W, 18 patients (including 9 patients previously reported) were evaluable for safety as of the data cutoff date:

- Safety data were consistent with previously reported results. XTX101 monotherapy was generally well-tolerated with treatment-related adverse events (TRAE) primarily Grade 1 or 2, and no patients discontinued treatment due to a TRAE. In addition, as previously reported, only one patient had a dose reduction due to an adverse event.
- The most common TRAE of any grade (≥10% incidence) reported by investigators was fatigue (11%).
- As previously reported, investigators reported only two Grade 3 TRAEs: Grade 3 TRAE of diarrhea, which occurred after two doses and resolved after five days without steroid use, and one Grade 3 TRAE of dermatitis.

In addition, as previously reported, no Grade 4 or 5 TRAEs were reported by investigators across all dosing levels and dosing intervals.

Preliminary Anti-Tumor Activity Data

At the RP2D of 150 mg Q6W, 12 patients were evaluable for anti-tumor activity as of the data cutoff date:

- As previously reported, a confirmed partial response (PR) was observed in a patient with Stage 4 PD-L1 negative non-small cell lung cancer (NSCLC), including complete resolution of liver metastases. The confirmed PR continued through 36 weeks of treatment with XTX101, with the patient discontinuing treatment after week 36 due to an unrelated adverse event.
- Additional data reported today demonstrated a disease control rate (DCR) of 33% in late-line and IO refractory patients administered XTX101 monotherapy at the RP2D of 150 mg Q6W, consisting of the confirmed PR in the NSCLC patient and stable disease in three patients (triple-negative breast cancer, melanoma and microsatellite stable colorectal cancer (n=1 each)).

Preliminary Pharmacokinetic Data

As previously reported, consistent with the tumor-selective design for XTX101, preliminary pharmacokinetic analyses demonstrated 96% activation of XTX101 in a melanoma tumor and 73% activation in a metastatic liver lesion in a colorectal cancer patient, compared to minimal peripheral activation of XTX101 of 13% in both patients.

Poster Presentation

A copy of Xilio's data presentation from the ESMO Immuno-Oncology Congress for XTX101 is available in the "Our Approach—Publications and Presentations" section of the company's website at www.xiliotx.com.

Clinical Development Plans for XTX101

Xilio recently completed enrolling patients at the RP2D of 150 mg Q6W in monotherapy dose expansion and initiated enrollment in Phase 1 combination dose escalation to evaluate the safety, tolerability and efficacy of XTX101 in combination with atezolizumab.

As previously reported, subject to obtaining sufficient additional capital, Xilio plans to:

- Complete Phase 1 combination dose escalation and select a RP2D for XTX101 in combination with atezolizumab in the second quarter of 2024
- Subject to the results of Phase 1 combination dose escalation, initiate a Phase 2 trial to evaluate the safety and efficacy of XTX101 in combination with atezolizumab in patients with MSS CRC in the third quarter of 2024

About XTX101 (anti-CTLA-4) and the Phase 1 Monotherapy and Phase 1/2 Combination Clinical Trials

XTX101 is an investigational tumor-activated, Fc-enhanced, high affinity binding anti-CTLA-4 monoclonal antibody designed to block CTLA-4 and deplete regulatory T cells when activated (unmasked) in the tumor microenvironment (TME). The Phase 1 clinical trial is a first-in-human, multi-center, open-label trial designed to evaluate the safety and tolerability of XTX101 for the treatment of adult patients with advanced solid tumors. Xilio has completed enrollment in monotherapy dose escalation (Part 1A) and monotherapy dose expansion (Part 1B). Please refer to NCT04896697 on www.clinicaltrials.gov for additional details.

Xilio is currently evaluating the safety and tolerability of XTX101 in combination with atezolizumab (Tecentriq®) in Phase 1 dose escalation in patients with advanced solid tumors, and subject to obtaining additional capital and the results of Phase 1 combination dose escalation, Xilio plans to evaluate the safety and efficacy of the combination in a Phase 2 trial in patients with microsatellite stable colorectal cancer (MSS CRC).

About Xilio Therapeutics

Xilio Therapeutics is a clinical-stage biotechnology company discovering and developing tumor-activated immuno-oncology (I-O) therapies with the goal of significantly improving outcomes for people living with cancer without the systemic side effects of current I-O treatments. The company is using its proprietary geographically precise solutions (GPS) platform to build a pipeline of novel, tumor-activated molecules, including antibodies, cytokines and other biologics, which are designed to optimize their therapeutic index and localize anti-tumor activity within the tumor microenvironment. Xilio is currently advancing multiple programs for tumor-activated I-O treatments in clinical development, as well as programs in preclinical development. Learn more by visiting www.xiliotx.com and follow us on LinkedIn (Xilio Therapeutics, Inc.).

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This press release contains hyperlinks to information that is not deemed to be incorporated by reference in this press release.

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For Investor and Media Inquiries:

Julissa Viana
Vice President, Head of Investor Relations and Corporate Communications
investors@xiliotx.com

Melissa Forst
Argot Partners
Xilio@argotpartners.com