
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, DC 20549

SCHEDULE 13G
(Rule 13d-102)

**Information to be Included in Statements Filed Pursuant
to § 240.13d-1(b), (c) and (d) and Amendments Thereto Filed
Pursuant to § 240.13d-2**

**Under the Securities Exchange Act of 1934
(Amendment No.)**

Xilio Therapeutics, Inc.
(Name of Issuer)

**Common Stock, \$0.0001
par value per share
(Title of Class of Securities)**

**98422T100
(CUSIP Number)**

**October 26, 2021
(Date of Event Which Requires Filing of This Statement)**

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934, as amended ("Act"), or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1	Names of reporting persons Bain Capital Life Sciences Fund II, L.P.	
2	Check the appropriate box if a member of a group (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC use only	
4	Citizenship or place of organization Cayman Islands	
Number of shares beneficially owned by each reporting person with:	5	Sole voting power 0 shares of Common Stock
	6	Shared voting power 1,348,682 shares of Common Stock
	7	Sole dispositive power 0 shares of Common Stock
	8	Shared dispositive power 1,348,682 shares of Common Stock
9	Aggregate amount beneficially owned by each reporting person 1,348,682 shares of Common Stock	
10	Check if the aggregate amount in Row (9) excludes certain shares <input type="checkbox"/>	
11	Percent of class represented by amount in Row (9) 5.1%	
12	Type of reporting person PN	

1	Names of reporting persons BCLS II Investco, LP	
2	Check the appropriate box if a member of a group (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC use only	
4	Citizenship or place of organization Delaware	
Number of shares beneficially owned by each reporting person with:	5	Sole voting power 0 shares of Common Stock
	6	Shared voting power 1,250,000 shares of Common Stock
	7	Sole dispositive power 0 shares of Common Stock
	8	Shared dispositive power 1,250,000 shares of Common Stock
9	Aggregate amount beneficially owned by each reporting person 1,250,000 shares of Common Stock	
10	Check if the aggregate amount in Row (9) excludes certain shares <input type="checkbox"/>	
11	Percent of class represented by amount in Row (9) 4.7%	
12	Type of reporting person PN	

1	Names of reporting persons BCIP Life Sciences Associates, LP	
2	Check the appropriate box if a member of a group (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC use only	
4	Citizenship or place of organization Delaware	
Number of shares beneficially owned by each reporting person with:	5	Sole voting power 0 shares of Common Stock
	6	Shared voting power 164,262 shares of Common Stock
	7	Sole dispositive power 0 shares of Common Stock
	8	Shared dispositive power 164,262 shares of Common Stock
9	Aggregate amount beneficially owned by each reporting person 164,262 shares of Common Stock	
10	Check if the aggregate amount in Row (9) excludes certain shares <input type="checkbox"/>	
11	Percent of class represented by amount in Row (9) 0.6%	
12	Type of reporting person PN	

Item 1(a). Name of Issuer

The name of the issuer to which this filing on Schedule 13G relates is Xilio Therapeutics, Inc. (the "Issuer").

Item 1(b). Address of Issuer's Principal Executive Offices

The principal executive offices of the Issuer are located at 828 Winter Street, Suite 300, Waltham, Massachusetts 02451.

Item 2(a). Name of Person Filing

This Schedule 13G is being filed jointly by Bain Capital Life Sciences Fund II, L.P., a Cayman exempted limited partnership ("BCLS II"), BCLS II Investco, LP, a Delaware limited partnership ("BCLS II Investco"), and BCIP Life Sciences Associates, LP, a Delaware limited partnership ("BCIPLS" and, together with BCLS II and BCLS II Investco, the "Reporting Persons").

Bain Capital Life Sciences Investors, LLC, a Delaware limited liability company ("BCLSI"), is the manager of Bain Capital Life Sciences Investors II, LLC, a Cayman limited liability company ("BCLSI II"), which is the general partner of BCLS II.

BCLS II Investco (GP), LLC, a Delaware limited liability company ("BCLS II Investco GP"), whose manager is BCLS II, is the general partner of BCLS II Investco.

Boylston Coinvestors, LLC, a Delaware limited liability company ("Boylston"), is the general partner of BCIPLS. BCLSI governs the investment strategy and decision-making process with respect to investments held by BCIPLS.

As a result, BCLSI may be deemed to share voting and dispositive power with respect to the securities held by the Reporting Persons.

The Reporting Persons have entered into a Joint Filing Agreement, dated November 5, 2021, pursuant to which the Reporting Persons have agreed to file this Schedule 13G jointly in accordance with the provisions of Rule 13d-1(k)(1) promulgated under the Act.

Item 2(b). Address of Principal Business Office or, if None, Residence

The principal business address for each of the Reporting Persons, BCLSI, BCLSI II, BCLS II Investco GP and Boylston is 200 Clarendon Street, Boston, MA 02116.

Item 2(c). Citizenship

BCLS II and BCLSI II are organized under the laws of the Cayman Islands. BCLS II Investco, BCIPLS, BCLSI, BCLS II Investco GP and Boylston are organized under the laws of the State of Delaware.

Item 2(d). Title of Class of Securities

The class of securities of the Issuer to which this Schedule 13G relates is Common Stock, \$0.0001 par value per share ("Common Stock").

Item 2(e). CUSIP Number

The CUSIP number of the Common Stock is 98422T100.

Item 3. If this statement is filed pursuant to §§ 240.13d-1(b), or 240.13d-2(b) or (c), check whether the person filing is a

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);
- (d) Investment company registered under Section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);
- (e) An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
- (h) A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act (15 U.S.C. 80a-3);
- (j) A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J);
- (k) Group, in accordance with § 240.13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution.

Item 4. Ownership**(a) Amount beneficially owned:**

As of the date hereof, BCLS II holds 1,348,682 shares of Common Stock, representing approximately 5.1% of the outstanding shares of Common Stock, BCLS II Investco holds 1,250,000 shares of Common Stock, representing approximately 4.7% of the outstanding shares of Common Stock, and BCIPLS holds 164,262 shares of Common Stock, representing approximately 0.6% of the outstanding shares of Common Stock.

As a result of the foregoing and the relationships described in Item 2(a) of this Schedule 13G, the Reporting Persons may be deemed to collectively beneficially own an aggregate of 2,762,944 shares of Common Stock, representing approximately 10.4% of the outstanding shares of Common Stock.

The percentage of the outstanding shares of Common Stock held by the Reporting Persons is based on 26,666,008 shares of Common Stock issued and outstanding, as reported by the Issuer in its prospectus relating to its initial public offering, filed with the Securities and Exchange Commission pursuant to Rule 424(b) under the Securities Act of 1933, as amended, on October 22, 2021.

(b) Percent of class:

See Item 4(a) hereof.

(c) Number of shares as to which the person has:

- (i) Sole power to vote or to direct the vote:

0

(ii) Shared power to vote or direct the vote:

BCLS II	1,348,682
BCLS II Investco	1,250,000
BCIPLS	164,262

(iii) Sole power to dispose or to direct the disposition of:

0

(iv) Shared power to dispose or to direct the disposition of:

BCLS II	1,348,682
BCLS II Investco	1,250,000
BCIPLS	164,262

Item 5. Ownership of Five Percent or Less of a Class

Not applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person

Not applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person

Not applicable.

Item 8. Identification and Classification of Members of the Group

Not applicable.

Item 9. Notice of Dissolution of Group

Not applicable.

Item 10. Certifications

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the Issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under § 240.14a-11.

SIGNATURES

After reasonable inquiry and to the best of its knowledge and belief, the undersigned certifies that the information in this statement is true, complete and correct.

Dated: November 5, 2021

Bain Capital Life Sciences Fund II, L.P.

By: Bain Capital Life Sciences Investors II, LLC,
its general partner

By: Bain Capital Life Sciences Investors, LLC,
its manager

By: /s/ Andrew Hack

Name: Andrew Hack

Title: Managing Director

BCLS II Investco, LP

By: BCLS II Investco (GP), LLC,
its general partner

By: Bain Capital Life Sciences Fund II, L.P.,
its manager

By: Bain Capital Life Sciences Investors II, LLC,
its general partner

By: Bain Capital Life Sciences Investors, LLC,
its manager

By: /s/ Andrew Hack

Name: Andrew Hack

Title: Managing Director

BCIP Life Sciences Associates, LP

By: Boylston Coinvestors, LLC,
its general partner

By: /s/ Andrew Hack

Name: Andrew Hack

Title: Authorized Signatory

**AGREEMENT REGARDING THE JOINT FILING OF
SCHEDULE 13G**

The undersigned hereby agree as follows:

- (i) Each of them is individually eligible to use the Schedule 13G to which this Exhibit is attached, and such Schedule 13G is filed on behalf of each of them; and
- (ii) Each of them is responsible for the timely filing of such Schedule 13G and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein; but none of them is responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate.

Dated: November 5, 2021

Bain Capital Life Sciences Fund II, L.P.

By: Bain Capital Life Sciences Investors II, LLC,
its general partner

By: Bain Capital Life Sciences Investors, LLC,
its manager

By: /s/ Andrew Hack

Name: Andrew Hack

Title: Managing Director

BCLS II Investco, LP

By: BCLS II Investco (GP), LLC,
its general partner

By: Bain Capital Life Sciences Fund II, L.P.,
its manager

By: Bain Capital Life Sciences Investors II, LLC,
its general partner

By: Bain Capital Life Sciences Investors, LLC,
its manager

By: /s/ Andrew Hack

Name: Andrew Hack

Title: Managing Director

BCIP Life Sciences Associates, LP

By: Boylston Coinvestors, LLC,
its general partner

By: /s/ Andrew Hack

Name: Andrew Hack

Title: Authorized Signatory