

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM S-8  
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)

85-1623397  
(I.R.S. Employer  
Identification No.)

828 Winter Street, Suite 300  
Waltham, Massachusetts  
(Address of Principal Executive Offices)

02451  
(Zip Code)

2020 Stock Incentive Plan  
2021 Stock Incentive Plan  
2021 Employee Stock Purchase Plan  
(Full Title of the Plan)

René Russo  
President and Chief Executive Officer  
Xilio Therapeutics, Inc.  
828 Winter Street, Suite 300  
Waltham, Massachusetts 02451  
(Name and Address of Agent for Service)

(617) 430-4680  
(Telephone Number, Including Area Code, of Agent for Service)

Copy to:

Chris Frankenfield  
General Counsel  
Xilio Therapeutics, Inc.  
828 Winter Street, Suite 300  
Waltham, Massachusetts 02451  
(617) 430-4680

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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

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 Securities	Amount	Proposed	Proposed	Amount of
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<b>to be Registered</b>	<b>to be Registered (1)</b>	<b>Maximum Offering Price Per Share</b>	<b>Maximum Aggregate Offering Price</b>	<b>Registration Fee</b>
Common stock, \$0.0001 par value per share	6,871,026 shares (2)	\$11.61 (3)	\$79,781,154.93 (3)	\$7,395.71

- (1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) Consists of (i) 3,365,543 shares issuable upon the exercise of outstanding options under the 2020 Stock Incentive Plan (the “2020 Plan”); (ii) 3,213,452 shares issuable under the 2021 Stock Incentive Plan (the “2021 Plan”), including 129,515 shares of unvested restricted common stock subject to forfeiture that may become issuable under the 2021 Stock Incentive Plan following such forfeiture; and (iii) 292,031 shares issuable under the 2021 Employee Stock Purchase Plan (the “2021 ESPP”). No further grants will be made under the 2020 Plan. Upon the expiration, termination, surrender, cancellation, forfeiture or repurchase of outstanding options under the 2020 Plan, the unissued balance of shares issuable under such awards will become available for grant under the 2021 Plan.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, as amended (the “Securities Act”). The price per share and aggregate offering price are calculated based on (a) \$7.04, the weighted average exercise price per share of the 3,365,543 shares subject to outstanding stock options under the 2020 Plan, at exercise prices ranging from \$5.51 to \$11.685 per share, and (b) \$16.00, the initial public offering price set forth on the cover page of the registrant’s prospectus, dated October 21, 2021, relating to the registrant’s initial public offering of common stock, in accordance with Rule 457(c) under the Securities Act, for the 3,213,452 shares issuable under the 2021 Stock Incentive Plan and the 292,031 shares issuable under the 2021 ESPP. Pursuant to the 2021 ESPP, the purchase price of the shares of common stock reserved for issuance thereunder will be 85% of the lesser of the closing price of the common stock on (i) the first business day of the applicable offering period and (ii) the last business day of the applicable offering period.

**PART I**  
**INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS**

**Item 1. Plan Information.**

The information required by Item 1 is included in documents sent or given to participants in the plans covered by this registration statement pursuant to Rule 428(b)(1) of the Securities Act of 1933, as amended (the “Securities Act”).

**Item 2. Registrant Information and Employee Plan Annual Information.**

The written statement required by Item 2 is included in documents sent or given to participants in the plans covered by this registration statement pursuant to Rule 428(b)(1) of the Securities Act.

**PART II**  
**INFORMATION REQUIRED IN THE REGISTRATION STATEMENT**

**Item 3. Incorporation of Documents by Reference.**

The registrant is subject to the informational and reporting requirements of Sections 13(a), 14, and 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the “Commission”). The following documents, which are on file with the Commission, are incorporated in this registration statement by reference:

- (a) [The registrant’s prospectus dated October 21, 2021, filed with the Commission pursuant to Rule 424\(b\) under the Securities Act, relating to the registration statement on Form S-1, as amended \(File No. 333-259973\), and all amendments to such registration statement; and](#)
- (b) [the description of the registrant’s common stock contained in the registrant’s registration statement on Form 8-A \(File No. 001-40925\), filed with the Commission on October 18, 2021, together with any amendment thereto filed for the purpose of updating such description.](#)

All documents subsequently filed by the registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of the filing of such documents, except as to any portion of any future annual or quarterly report to stockholders or document or current report furnished under current Items 2.02 or 7.01 of Form 8-K that is not deemed filed under such provisions. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

**Item 4. Description of Securities.**

Not applicable.

**Item 5. Interests of Named Experts and Counsel.**

Not applicable.

**Item 6. Indemnification of Directors and Officers.**

Section 102 of the General Corporation Law of the State of Delaware (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. The registrant’s amended and restated certificate of incorporation that will be effective upon the closing of its initial public offering of common stock provides that no director shall be personally liable to the registrant or its 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.

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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 entitled to indemnification for such expenses which the Court of Chancery or such other court shall deem proper.

The registrant's amended and restated certificate of incorporation that will be effective upon the closing of its initial public offering of common stock provides that the registrant 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 the registrant), by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the registrant, or is or was serving, or has agreed to serve, at the request of the registrant as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (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, the best interests of the registrant, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful.

The registrant's amended and restated certificate of incorporation that will be effective upon the closing of its initial public offering of common stock also provides that the registrant will indemnify any Indemnitee who was or is a party or threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the registrant to procure a judgment in the registrant's favor by reason of the fact that the Indemnitee is or was, or has agreed to become, a director or officer of the registrant, or is or was serving, or has agreed to serve, at the request of the registrant as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, 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, the best interests of the registrant, 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 the registrant, 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 fairly and reasonably 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 the registrant against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If the registrant does not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

In addition, the registrant has entered into indemnification agreements with all of the registrant's directors and executive officers. In general, these agreements provide that the registrant will indemnify the directors or executive officers to the fullest extent permitted by law for claims arising in his or her capacity as a director or executive officer of the registrant or in connection with his or her service at the request of the registrant for another corporation or entity. The indemnification agreements also provide for procedures that will apply in the event that a director or executive officer makes a claim for indemnification and establish certain presumptions that are favorable to the executive officer or director.

The registrant maintains a general liability insurance policy that covers certain liabilities of the registrant's directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

**Item 7. Exemption from Registration Claimed.**

Not applicable.

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**Item 8. Exhibits.**

The following exhibits are incorporated herein by reference:

Number	Description
4.1	<a href="#">Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to Amendment No.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-259973) filed with the Securities and Exchange Commission on October 18, 2021).</a>
4.2	<a href="#">Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-259973) filed with the Securities and Exchange Commission on October 1, 2021).</a>
4.3	<a href="#">Form of Restated Certificate of Incorporation of the Registrant (to be effective upon the closing of the Registrant's initial public offering) (incorporated by reference to Exhibit 3.3 to the Registrant's Registration Statement on Form S-1 (File No. 333-259973) filed with the Securities and Exchange Commission on October 1, 2021).</a>
4.4	<a href="#">Form of Amended and Restated Bylaws of the Registrant (to be effective upon the closing of the Registrant's initial public offering) (incorporated by reference to Exhibit 3.4 to the Registrant's Registration Statement on Form S-1 (File No. 333-259973) filed with the Securities and Exchange Commission on October 1, 2021).</a>
5.1*	<a href="#">Opinion of Wilmer Cutler Pickering Hale and Dorr LLP, counsel to 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 the signature pages of this registration statement).</a>
99.1	<a href="#">2020 Stock Incentive Plan, as amended (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-259973) filed with the Securities and Exchange Commission on October 1, 2021).</a>
99.2	<a href="#">2021 Stock Incentive Plan (incorporated by reference to Exhibit 10.5 to Amendment No.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-259973) filed with the Securities and Exchange Commission on October 18, 2021).</a>
99.3	<a href="#">2021 Employee Stock Purchase Plan (incorporated by reference to 10.8 to Amendment No.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-259973) filed with the Securities and Exchange Commission on October 18, 2021).</a>

\* Filed herewith

**Item 9. Undertakings.**

(a) The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
  - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
  - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
  - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment 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.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement 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.

(h) 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 Commission 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.

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**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, Commonwealth of Massachusetts on this 22nd day of October, 2021.

XILIO THERAPEUTICS, INC.

By: /s/ René Russo

René Russo

President and Chief Executive Officer

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## POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Xilio Therapeutics, Inc., hereby severally constitute and appoint René Russo, Salvatore Giovine and Chris Frankenfield, and each of them singly (with full power to each of them to act alone), our true and lawful attorneys with full power of substitution and resubstitution in each of them for him and in his name, place and stead, and in any and all capacities, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-8 filed herewith and any and all subsequent amendments to said registration statement, and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable Xilio Therapeutics, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<u>/s/ René Russo</u> René Russo	President and Chief Executive Officer, Director (Principal Executive Officer)	October 22, 2021
<u>/s/ Salvatore Giovine</u> Salvatore Giovine	Chief Financial Officer (Principal Financial and Accounting Officer)	October 22, 2021
<u>/s/ Daniel S. Lynch</u> Daniel S. Lynch	Chairman of the Board	October 22, 2021
<u>/s/ Sara M. Bonstein</u> Sara M. Bonstein	Director	October 22, 2021
<u>/s/ Paul J. Clancy</u> Paul J. Clancy	Director	October 22, 2021
<u>/s/ Daniel Curran</u> Daniel Curran	Director	October 22, 2021
<u>/s/ Rachel Humphrey</u> Rachel Humphrey	Director	October 22, 2021
<u>/s/ Michael Ross</u> Michael Ross	Director	October 22, 2021
<u>/s/ Christina Rossi</u> Christina Rossi	Director	October 22, 2021

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WILMERHALE

+1 617 526 6000 (t)

+1 617 526 5000 (f)

October 22, 2021

Xilio Therapeutics, Inc.  
828 Winter Street, Suite 300  
Waltham, MA 02451

Re: 2020 Stock Incentive Plan, as amended  
2021 Stock Incentive Plan  
2021 Employee Stock Purchase Plan

Ladies and Gentlemen:

We have assisted in the preparation of a Registration Statement on Form S-8 (the "Registration Statement") to be filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), relating to an aggregate of 6,871,026 shares of common stock, \$0.0001 par value per share (the "Shares"), of Xilio Therapeutics, Inc., a Delaware corporation (the "Company"), issuable under the Company's 2020 Stock Incentive Plan, as amended, 2021 Stock Incentive Plan and 2021 Employee Stock Purchase Plan (collectively, the "Plans").

We have examined the Certificate of Incorporation and Bylaws of the Company, each as amended and restated to date, and originals, or copies certified to our satisfaction, of all pertinent records of the meetings of the directors and stockholders of the Company, the Registration Statement and such other documents relating to the Company as we have deemed material for the purposes of this opinion.

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 certified, photostatic or other copies, the authenticity of the originals of any such documents and the legal competence of all signatories to such documents.

We assume that the appropriate action will be taken, prior to the offer and sale of the Shares in accordance with the Plans, to register and qualify the Shares for sale under all applicable state securities or "blue sky" laws.

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.

It is understood that this opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

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.

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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October 22, 2021

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Based on the foregoing, we are of the opinion that the Shares have been duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Plans, the Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion with the Commission in connection with the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act. 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,

WILMER CUTLER PICKERING HALE AND DORR LLP

By: /s/ Cynthia T. Mazareas

\_\_\_\_\_  
Cynthia T. Mazareas, a Partner

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**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2020 Stock Incentive Plan, 2021 Stock Incentive Plan, and 2021 Employee Stock Purchase Plan of Xilio Therapeutics, Inc. of our report dated May 24, 2021 (except Note 18(f), as to which the date is October 18, 2021) with respect to the consolidated financial statements of Xilio Therapeutics, Inc. included in its Registration Statement, as amended Form (S-1 No. 333-259973) for the year ended December 31, 2020, and related Prospectus filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts  
October 22, 2021

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