

**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)

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

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

02451
(Zip Code)

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.

Statement of Incorporation by Reference

This Registration Statement on Form S-8, relating to the 2021 Stock Incentive Plan and the 2021 Employee Stock Purchase Plan of Xilio Therapeutics, Inc. (the "Registrant"), is being filed for the purpose of registering additional securities of the same class as other securities for which a Registration Statement on Form S-8 has previously been filed and is effective. Accordingly, this Registration Statement incorporates by reference the contents of the Registration Statement on Form S-8, [File No. 333-260460](#), filed with the Securities and Exchange Commission ("SEC") on October 25, 2021 by the Registrant, except as otherwise set forth below.

PART II
INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The Registrant hereby incorporates by reference into this Registration Statement the following documents which have been previously filed (not furnished) with the SEC:

- (a) the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 filed with the SEC on [March 1, 2022](#) (File No. 001-40925);
- (b) the Registrant's Current Reports on Form 8-K, as filed with the SEC on [January 6, 2022](#), [February 4, 2022](#) and [March 1, 2022](#); and
- (c) the description of the Common Stock contained in the Registrant's Registration Statement on Form 8-A filed with the SEC on [October 18, 2021](#) pursuant to Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as the description therein has been updated and superseded by the description of our Common Stock contained in Exhibit 4.3 to our Annual Report on Form 10-K for the year ended December 31, 2021, as filed with the SEC on [March 1, 2022](#), and including any amendments or reports filed for the purpose of updating such description (File No. 001-40925).

In addition, all other documents filed (not furnished) by the Registrant pursuant to Section 13(a), Section 13(c), Section 14 or Section 15(d) of the Exchange Act on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered hereby have been sold or that deregisters all securities then remaining unsold shall be deemed to be incorporated in this Registration Statement by reference and to be a part of this Registration Statement from the date of filing of such documents; *provided, however*, that documents or information deemed to have been furnished to and not filed with the SEC in accordance with the rules of the SEC shall not be deemed incorporated by reference into this Registration Statement.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be

Item 8. Exhibits.

The following exhibits are incorporated herein by reference:

<u>Number</u>	<u>Description</u>
3.1	<u>Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K (File No. 001-40925), filed with the Securities and Exchange Commission on October 26, 2021)</u>
3.2	<u>Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 of the Company's Current Report on Form 8-K (File No. 001-40925), filed with the Securities and Exchange Commission on October 26, 2021)</u>
5.1*	<u>Opinion of Wilmer Cutler Pickering Hale and Dorr LLP, counsel to the Registrant</u>
23.1*	<u>Consent of Ernst & Young LLP, independent registered public accounting firm</u>
23.2*	<u>Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)</u>
24.1*	<u>Power of attorney (included on the signature pages of this registration statement)</u>
99.1	<u>2021 Stock Incentive Plan (incorporated by reference to Exhibit 10.5 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)</u>
99.2	<u>2021 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.8 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)</u>
107.1*	<u>Filing Fee Table</u>

* Filed herewith

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, 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 1st day of March, 2022.

XILIO THERAPEUTICS, INC.

By: /s/ René Russo
René Russo
President and Chief Executive Officer

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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ René Russo</u> René Russo	President and Chief Executive Officer, Director <i>(Principal Executive Officer)</i>	March 1, 2022
<u>/s/ Salvatore Giovine</u> Salvatore Giovine	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	March 1, 2022
<u>/s/ Daniel S. Lynch</u> Daniel S. Lynch	Chairman of the Board	March 1, 2022
<u>/s/ Sara M. Bonstein</u> Sara M. Bonstein	Director	March 1, 2022
<u>/s/ Paul J. Clancy</u> Paul J. Clancy	Director	March 1, 2022
<u>/s/ Daniel Curran</u> Daniel Curran	Director	March 1, 2022
<u>/s/ Michael Ross</u> Michael Ross	Director	March 1, 2022
<u>/s/ Christina Rossi</u> Christina Rossi	Director	March 1, 2022
<u>/s/ Yuan Xu</u> Yuan Xu	Director	March 1, 2022

March 1, 2022

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

Re: 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 1,648,136 shares of common stock, \$0.0001 par value per share (the "Shares"), of Xilio Therapeutics, Inc., a Delaware corporation (the "Company"), issuable under the 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 Washingtc

March 1, 2022

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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

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2021 Stock Incentive Plan and 2021 Employee Stock Purchase Plan of Xilio Therapeutics, Inc. of our report dated March 1, 2022, with respect to the consolidated financial statements of Xilio Therapeutics, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2021, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts
March 1, 2022

Calculation of Filing Fee Tables
Form S-8
(Form Type)

Xilio Therapeutics, Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1—Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered (1)	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common Stock, \$0.0001 par value per share	Other	1,648,136 shares (2)	\$11.92 (3)	\$19,645,781.12 (3)	0.0000927	\$1,821.17
Total Offering Amounts							\$19,645,781.12
Total Fee Offsets							\$ 0
Net Fee Due							\$1,821.17

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- (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) Represents an automatic annual increase on January 1, 2022 to the number of shares reserved for issuance under the 2021 Stock Incentive Plan and the 2021 Employee Stock Purchase Plan pursuant to the terms of such plans and consists of (i) 1,373,447 shares issuable under the 2021 Stock Incentive Plan and (ii) 274,689 shares issuable under the 2021 Employee Stock Purchase 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, and based upon the average of the high and low prices of the Registrant's Common Stock as reported on the Nasdaq Global Select Market on February 24, 2022.
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