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

**FORM S-8
REGISTRATION STATEMENT**
*UNDER
THE SECURITIES ACT OF 1933*

Lexeo Therapeutics, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

85-4012572
(I.R.S. Employer
Identification No.)

345 Park Avenue South, Floor 6
New York, New York
(Address of Principal Executive Offices)

10010
(Zip Code)

Lexeo Therapeutics, Inc. 2021 Equity Incentive Plan
Lexeo Therapeutics, Inc. 2023 Equity Incentive Plan
Lexeo Therapeutics, Inc. 2023 Employee Stock Purchase Plan
(Full titles of the plans)

R. Nolan Townsend
Chief Executive Officer
Lexeo Therapeutics, Inc.
345 Park Avenue South, Floor 6
New York, New York 10010
(212) 547-9879

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Eric Blanchard
Dayne Brown
Cooley LLP
55 Hudson Yards
New York, New York 10001
(212) 479-6000

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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
Non-accelerated filer

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.

PART I
INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

The information called for by Part I of Form S-8 is omitted from this Registration Statement in accordance with Rule 428 of the Securities Act of 1933, as amended (the “Securities Act”) and the instructions to Form S-8. In accordance with the rules and regulations of the Securities and Exchange Commission (the “Commission”) and the instructions to Form S-8, such documents are not being filed with the Commission either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act.

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 previously filed by the Registrant with the Commission:

- (a) The Registrant’s prospectus filed on [November 6, 2023](#) pursuant to Rule 424(b) of the Securities Act relating to the Registration Statement on [Form S-1](#), as amended (File No. 333-274777), initially filed with the Commission on September 29, 2023, which contains audited financial statements for the Registrant’s latest fiscal year for which such statements have been filed; and
- (b) The description of the Registrant’s Common Stock contained in the Registrant’s Registration Statement on [Form 8-A](#) filed on November 1, 2023 (File No. 001-41855) under Section 12(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), including any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this Registration Statement and 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 into this Registration Statement and to be a part hereof from the date of filing of such documents; provided, however, that documents or portions thereof that are furnished and not filed in accordance with the rules of the Commission 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 herein or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not constitute a part of this Registration Statement, except as so modified or superseded.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

The Registrant is incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his 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.

Section 145 of the Delaware General Corporation Law 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 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 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 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 indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

As permitted by the Delaware General Corporation Law, the Registrant's amended and restated certificate of incorporation and its amended and restated bylaws provide that: (i) the Registrant is required to indemnify its directors to the fullest extent permitted by the Delaware General Corporation Law; (ii) the Registrant may, in its discretion, indemnify its officers, employees and agents as set forth in the Delaware General Corporation Law; (iii) the Registrant is required, upon satisfaction of certain conditions, to advance all expenses incurred by its directors in connection with certain legal proceedings; (iv) the rights conferred in the bylaws are not exclusive; and (v) the Registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents.

The Registrant has entered into indemnification agreements with its directors and executive officers that require it to indemnify them against expenses, judgments, fines, settlements and other amounts that any such person becomes legally obligated to pay in connection with any proceeding, whether actual or threatened, to which such person may be made a party by reason of the fact that such person is or was a director or officer of the Registrant or any of its affiliates, provided such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, the Registrant's best interests.

The Registrant maintains a directors' and officers' liability insurance policy that covers its directors and officers with respect to certain liabilities, including liabilities arising under the Securities Act, or otherwise.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

The exhibits to this Registration Statement are listed below:

<u>Exhibit Number</u>	<u>Description</u>
4.1	<u>Amended and Restated Certificate of Incorporation, as currently in effect (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed with the Commission on November 7, 2023).</u>
4.2	<u>Amended and Restated Bylaws of the Registrant, as currently in effect (incorporated herein by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K, filed with the Commission on November 7, 2023).</u>
4.3	<u>Amended and Restated Investors' Rights Agreement, by and among the Registrant and certain of its stockholders, dated August 10, 2021 (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-274777), filed with the Commission on September 29, 2023).</u>

- 4.4 [Form of Common Stock Certificate of the Registrant \(incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-1, as amended \(File No. 333-274777\), filed with the Commission on October 30, 2023\).](#)
- 5.1* [Opinion of Cooley LLP.](#)
- 23.1* [Consent of Independent Registered Public Accounting Firm.](#)
- 23.2* [Consent of Cooley LLP \(included in Exhibit 5.1\).](#)
- 24.1* [Power of Attorney \(included on the signature page\).](#)
- 99.1 [The Registrant's 2021 Equity Incentive Plan, as amended from time to time and Form of Stock Option Agreement, Early Exercise Notice and Restricted Stock Purchase Agreement, and Exercise Notice \(incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-1, as amended \(File No. 333-274777\), filed with the Commission on September 29, 2023\).](#)
- 99.2 [The Registrant's 2023 Equity Incentive Plan and Forms of Option Grant Notice and Agreement, Exercise Notice, Early Exercise Notice and Restricted Stock Award Notice \(incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1, as amended \(File No. 333-274777\), filed with the Commission on October 30, 2023\).](#)
- 99.3 [The Registrant's 2023 Employee Stock Purchase Plan \(incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form S-1, as amended \(File No. 333-274777\), filed with the Commission on October 30, 2023\).](#)
- 107* [Filing Fee Table.](#)

* 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;
 - (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 a 20% 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 Exchange Act that are incorporated by reference in the Registration Statement.

- (2) That, for the purpose of determining any liability under the Securities Act, 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, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act 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.

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 New York, New York, on November 7, 2023.

LEXEO THERAPEUTICS, INC.

By: /s/ R. Nolan Townsend

R. Nolan Townsend
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints R. Nolan Townsend as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in their name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective on filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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/ R. Nolan Townsend</u> R. Nolan Townsend	Chief Executive Officer and Director (Principal Executive, Financial and Accounting Officer)	November 7, 2023
<u>/s/ Mette Kirstine Agger</u> Mette Kirstine Agger	Director	November 7, 2023
<u>/s/ Steven Altschuler</u> Steven Altschuler, M.D.	Director	November 7, 2023
<u>/s/ Paula HJ Cholmondeley</u> Paula HJ Cholmondeley	Director	November 7, 2023
<u>/s/ Brenda Cooperstone</u> Brenda Cooperstone	Director	November 7, 2023
<u>/s/ Bernard Davitian</u> Bernard Davitian	Director	November 7, 2023
<u>/s/ Reinaldo Diaz</u> Reinaldo Diaz	Director	November 7, 2023



Eric Blanchard
T: (212) 479 6565
eblanchard@cooley.com

November 7, 2023

Lexeo Therapeutics, Inc.
345 Park Avenue South, Floor 6
New York, New York 10010

Ladies and Gentlemen:

We have acted as counsel to Lexeo Therapeutics, Inc., a Delaware corporation (the "**Company**"), in connection with the filing of a Registration Statement on Form S-8 (the "**Registration Statement**") with the Securities and Exchange Commission (the "**Commission**") covering the offering of up to 4,972,267 shares (the "**Shares**") of the Company's common stock, par value \$0.0001 per share (the "**Common Stock**"), consisting of (a) 2,322,098 shares of Common Stock issuable upon the exercise of awards granted pursuant to the Company's 2021 Equity Incentive Plan (the "**2021 Plan**"), (b) 2,411,569 shares of Common Stock issuable pursuant to the Company's 2023 Equity Incentive Plan (the "**2023 Plan**") and (c) 238,600 shares of Common Stock issuable pursuant to the Company's 2023 Employee Stock Purchase Plan (together with the 2021 Plan and the 2023 Plan, the "**Plans**").

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and related prospectuses, (b) the Company's certificate of incorporation and bylaws, each as currently in effect, (c) the Plans, and (d) such other records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials and the due authorization, execution and delivery of all documents by all persons other than by the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Plans, the Registration Statement and related prospectuses, will be validly issued, fully paid, and nonassessable (except as to shares issued pursuant to deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

This opinion is limited to the matters expressly set forth in this letter, and no opinion should be implied, or may be inferred, beyond the matters expressly stated. This opinion speaks only as to law and facts in effect or existing as of the date hereof and we undertake no obligation or responsibility to update or supplement this letter to reflect any facts or circumstances that may hereafter come to our attention or any changes in law that may hereafter occur.

We consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit we are in the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Commission thereunder.

Sincerely,

Cooley LLP

By: /s/ Eric Blanchard
Eric Blanchard

Cooley LLP 55 Hudson Yards New York, NY 10001-2157
t: +1 212 479 6000 f: +1 212 479 6275 cooley.com

KPMG LLP
345 Park Avenue
New York, NY 10154-0102

Consent of Independent Registered Public Accounting Firm

We consent to the use of our audit report dated March 31, 2023, with respect to the consolidated financial statements of Lexeo Therapeutics, Inc., included herein.

/s/ KPMG LLP

New York, New York
November 7, 2023

Calculation of Filing Fee Table

Form S-8
(Form Type)

LEXEO 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 Share	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common Stock, \$0.0001 par value per share, reserved for issuance pursuant to the 2021 Equity Incentive Plan	Other ⁽²⁾	2,322,098 ⁽³⁾	\$8.14	\$18,901,877.72	0.0001476	\$2,789.92
Equity	Common Stock, \$0.0001 par value per share, reserved for issuance pursuant to the 2023 Equity Incentive Plan	Other ⁽⁴⁾	2,411,569 ⁽⁵⁾⁽⁶⁾	\$11.00	\$26,527,259.00	0.0001476	\$3,915.42
Equity	Common Stock, \$0.0001 par value per share, reserved for issuance pursuant to the 2023 Employee Stock Purchase Plan	Other ⁽⁷⁾	238,600 ⁽⁸⁾	\$9.35	\$2,230,910.00	0.0001476	\$329.28
Total Offering Amounts				—	\$47,660,046.72	—	\$7,034.62
Total Fee Offsets				—	—	—	—
Net Fee Due				—	—	—	\$7,034.62

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement shall also cover any additional shares of common stock (“Common Stock”) of Lexeo Therapeutics, Inc. (the “Registrant”) that become issuable under the Registrant’s 2021 Equity Incentive Plan (the “2021 Plan”), the Registrant’s 2023 Equity Incentive Plan (the “2023 Plan”), or the Registrant’s 2023 Employee Stock Purchase Plan (the “2023 ESPP”) by reason of any stock dividend, stock split, recapitalization or other similar transaction.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(h) of the Securities Act. The proposed maximum offering price per share and proposed maximum aggregate offering price for the 2,322,098 shares of Common Stock reserved for issuance upon the exercise of outstanding stock options granted under the 2021 Plan are calculated using the weighted-average exercise price of \$8.14 per share for such stock options.
- (3) Represents shares of Common Stock reserved for issuance upon the exercise of outstanding stock options granted under the 2021 Plan. No additional stock awards will be granted under the 2021 Plan.
- (4) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(h) of the Securities Act. The proposed maximum offering price per share and proposed maximum aggregate offering price are calculated on the basis of \$11.00 per share (the “IPO Price”), which is the initial public offering price per share of the Registrant’s Common Stock set forth in the Registrant’s prospectus filed with the Securities and Exchange Commission on November 6, 2023 pursuant to Rule 424(b) of the Securities Act.
- (5) Includes 24,890 shares of Common Stock issued pursuant to stock awards granted under the 2021 Plan that are subject to repurchase. No additional stock awards will be granted under the 2021 Plan.

- (6) Includes 2,386,679 shares of Common Stock reserved for future grant under the 2023 Plan. To the extent that any stock options discussed under footnotes (2) and (5) outstanding under the 2021 Plan expire or are terminated prior to exercise or settlement, are not issued because the stock award is settled in cash, are forfeited or repurchased because of the failure to vest, or are reacquired or withheld to satisfy a tax withholding obligation or the purchase or exercise price, the shares of common stock reserved for issuance pursuant to such stock awards will become available for issuance as shares of common stock under the 2023 Plan. The 2023 Plan also provides that an additional number of shares will automatically be added annually to the shares authorized for issuance under the 2023 Plan on January 1st of each year, commencing on January 1, 2024 and ending on (and including) January 1, 2033, in an amount equal to 5% of the total number of shares of Common Stock outstanding on December 31 of the preceding year; provided, however, that the Registrant's board of directors may act prior to January 1st of a given year to provide that the increase for such year will be a lesser number of shares of Common Stock. This explanation is provided for information purposes only. The issuance of such additional shares is not being registered on this Registration Statement.
- (7) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(h) of the Securities Act. The proposed maximum offering price per share and proposed maximum aggregate offering price are calculated on the basis of the IPO Price, multiplied by 85%, which is the percentage of the price per share applicable to purchases under the 2023 ESPP.
- (8) Represents 238,600 shares of Common Stock reserved for future grant under the 2023 ESPP. The 2023 ESPP provides that an additional number of shares of Common Stock will automatically be added annually to the shares authorized for issuance under the 2023 ESPP on January 1st of each year, commencing on January 1, 2024 and ending on (and including) January 1, 2033, in an amount equal to the lesser of (i) 1% of the total number of shares of Common Stock outstanding on December 31st of the preceding calendar year and (ii) 477,200 shares of Common Stock; provided, however, that the Registrant's board of directors may act prior to January 1st of a given year to provide that there will be no January 1st increase in the share reserve for such calendar year or that the increase for such year will be a lesser number of shares of Common Stock. This explanation is provided for information purposes only. The issuance of such additional shares is not being registered on this Registration Statement.