UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

Aileron Therapeutics, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware 13-4196017
(State or Other Jurisdiction of (I.R.S. Employer Incorporation or Organization) Identification No.)

12407 N. Mopac Expy. Suite 250 #390 Austin, TX (Address of Principal Executive Offices)

78758 (Zip Code)

Aileron Therapeutics, Inc. 2021 Stock Incentive Plan (Full Title of the Plan)

Brian Windsor, Ph.D.
President and Chief Executive Officer
Aileron Therapeutics, Inc.
12407 N. Mopac Expy.
Suite 250 #390
Austin, TX 78758
(Name and Address of Agent For Service)

(737) 802-1989 (Telephone Number, Including Area Code, of Agent For Service)

•	y. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting conformation of the Exchange Act.	1 6 1 5	an
Large accelerated filer		Accelerated filer	
Non-accelerated filer		Smaller reporting company	\times
		Emerging growth company	
	mpany, indicate by check mark if the registrant has elected not to use the extended transition accounting standards provided pursuant to Section $7(a)(2)(B)$ of the Securities Act. \Box	on period for complying with any	r

EXPLANATORY NOTE

Aileron Therapeutics, Inc. (the "Registrant" or the "Company") is filing this Registration Statement on Form S-8 (the "Registration Statement") with the Securities and Exchange Commission (the "Commission") to register an additional 3,000,000 shares of the Company's common stock, \$0.001 par value per share, ("Common Stock") reserved for issuance under the Aileron Therapeutics, Inc. 2021 Stock Incentive Plan, as amended (the "2021 Plan").

The 2021 Plan was adopted by the Company's Board of Directors, subject to stockholder approval, on April 14, 2021, and approved by the Company's stockholders on June 15, 2021. On August 11, 2021, the Company filed a registration statement on Form S-8 (Registration No. 333-258717) (the "2021 Registration Statement") to register 939,007 shares of Common Stock reserved for issuance under the 2021 Plan as originally approved by the Company's stockholders on June 15, 2021.

On January 17, 2024, the Company's Board of Directors, subject to stockholder approval, adopted an amendment to the 2021 Plan solely to increase the number of shares of Common Stock issuable under the 2021 Plan by 3,000,000 shares (the "Plan Amendment") and, on February 28, 2024, the Company's stockholders approved the Plan Amendment. This Registration Statement is being filed to register the additional 3,000,000 shares of Common Stock reserved for issuance under the 2021 Plan.

Pursuant to General Instruction E of Form S-8 under the Securities Act of 1933, as amended (the "Securities Act"), the contents of the 2021 Registration Statement, including the documents incorporated therein by reference, are hereby incorporated by reference into this Registration Statement to the extent not otherwise amended or superseded by the contents hereof. In accordance with the instructional note to Part I of Form S-8 as promulgated by the Commission, the information specified by Part I of Form S-8 has been omitted from this Registration Statement.

All share amounts referenced above and otherwise in this Registration Statement give effect to a 1-for-20 reverse stock split of the Common Stock effected on November 11, 2022.

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

The Registrant will provide all participants in the 2021 Plan with the document(s) containing the information required by Part I of Form S-8, as specified in Rule 428(b)(1) promulgated by the Commission under the Securities Act. In accordance with Rule 428 of the Securities Act, the Registrant has not filed such document(s) with the Commission, but such document(s) (along with the documents incorporated by reference into this Registration Statement pursuant to Item 3 of Part II hereof) shall constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act. The Registrant shall maintain a file of such documents in accordance with the provisions of Rule 428(a)(2) of the Securities Act. Upon request, the Registrant shall furnish to the Commission or its staff a copy or copies of all of the documents included in such file.

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 Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the Commission on April 15, 2024, as amended by the Registrant's Amendment No.1 to Annual Report on Form 10-K/A for the fiscal year ended December 31, 2023, filed with the Commission on April 29, 2024;

- (b) the Registrant's Current Reports on Form 8-K filed with the SEC on <u>January 10, 2024</u>, <u>January 11, 2024</u> (as filed on Form 8-K/A to amend the Current Report on Form 8-K filed on October 31, 2023), <u>January 25, 2024</u>, <u>January 29, 2024</u>, <u>February 13, 2024</u>, <u>March 1, 2024</u>, <u>March 15, 2024</u>, <u>March 29, 2024</u>, <u>April 15, 2024</u>, and <u>May 1, 2024</u> (in each case, excluding those portions furnished pursuant to Item 2.02 and Item 7.01, if applicable); and
- (c) the description of the Registrant's Common Stock contained in Exhibit 4.2 to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2023, as filed with the Commission on April 15, 2024.

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. 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 8. Exhibits

The following exhibits are incorporated herein by reference:

Exhibit <u>Number</u>	<u>Description</u>
4.1	Restated Certificate of Incorporation of the Registrant, as amended (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q filed on August 11, 2021).
4.2	Certificate of Amendment of Restated Certificate of Incorporation of the Registrant, dated as of November 10, 2022 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on November 10, 2022).
4.2	Certificate of Amendment of Restated Certificate of Incorporation of the Registrant, dated as of February 29, 2024 (incorporated by reference to Exhibit 3.3 to the Registrant's Annual Report on Form 10-K filed on April 15, 2024).
4.3	Amended and Restated By-laws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on July 5, 2017).
4.4	<u>Certificate of Designation of Series X Non-Voting Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on October 31, 2023).</u>
4.5	Aileron Therapeutics, Inc. 2021 Stock Incentive Plan, as amended (incorporated by reference to Exhibit 10.11 to the Registrant's Annual Report on Form 10-K filed on April 15, 2024).
5.1*	Opinion of Cozen O'Connor P.C., counsel to the Registrant
23.1*	Consent of Cozen O'Connor P.C. (included in Exhibit 5.1)
23.2*	Consent of PricewaterhouseCoopers LLP
23.3*	Consent of Marcum LLP
23.4*	Consent of Deloitte LLP
24*	Power of attorney (included on the signature pages of this Registration Statement)
107*	Filing Fee Table

Filed herewith

Item 9. Undertakings

- 1. 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 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 (1)(i) and (ii) do not apply if 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.
- 2. 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 therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- 3. 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 the city of Austin, Texas, on this 1st day of May, 2024.

AILERON THERAPEUTICS, INC.

By: /s/ Brian Windsor, Ph.D.
Brian Windsor, Ph.D.
President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Aileron Therapeutics, Inc. hereby severally constitute and appoint Brian Windsor, Ph.D. and Charles T. Garner, and each of them singly, are true and lawful attorneys with full power to them, and each of them singly, 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 Aileron 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.

Signature	Title	Date	
/s/ Brian Windsor, Ph.D. Brian Windsor, Ph.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	May 1, 2024	
/s/ Charles T. Garner Charles T. Garner	Senior Vice President, Finance (Principal Financial Officer and Principal Accounting Officer)	May 1, 2024	
/s/ Josef H. von Rickenbach Josef H. von Rickenbach	Director, Chair of the Board of Directors	May 1, 2024	
/s/ Manuel C. Aivado, M.D., Ph.D. Manuel C. Aivado, M.D., Ph.D.	Director	May 1, 2024	
/s/ Reinhard J. Ambros Reinhard J. Ambros, Ph.D.	Director	May 1, 2024	
/s/ William C. Fairey William C. Fairey	Director	May 1, 2024	
/s/ Alan A. Musso	Director	May 1, 2024	



May 1, 2024

Aileron Therapeutics, Inc. 12407 N. Mopac Expy. Suite 250 #390 Austin, TX 78758

Ladies and Gentlemen:

We have acted as counsel to Aileron Therapeutics, Inc., a Delaware corporation (the "Company"), in connection with the preparation of the Company's registration statement on Form S-8, filed with the U.S. Securities and Exchange Commission (the "Commission") on or about the date first written above (as amended from time to time, the "Registration Statement") under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the registration of an additional 3,000,000 shares (the "Plan Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), pursuant to the terms of the Aileron Therapeutics, Inc. 2021 Stock Incentive Plan, as amended (the "Plan").

As counsel to the Company, we have examined and are familiar with originals or copies, certified or otherwise identified to our satisfaction of: the Plan; the Restated Certificate of Incorporation, as amended by Certificate of Amendment dated November 10, 2022 and February 29, 2024, of the Company as currently in effect; the Amended and Restated Bylaws of the Company as currently in effect, the Registration Statement, together with the exhibits filed as part thereof or incorporated therein by reference, covering the registration of the Plan Shares under the Securities Act; and such other corporate records, certificates, other documents, and questions of law as we have considered necessary or appropriate for the purposes of this opinion.

In our examination, we have assumed the legal capacity of all natural persons, 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 or photostatic copies, and the authenticity of the originals of such copies. As to any facts material to this opinion that we did not independently establish or verify, we have relied upon oral or written statements and representations of officers and other representatives of the Company. We have made no independent investigation or other attempt to verify the accuracy of any of such information or to determine the existence or non-existence of any other factual matters.

Based on the foregoing, and subject to the assumptions, qualifications and limitations set forth herein, we are of the opinion that the Plan Shares have been duly authorized and when the Plan Shares have been duly issued and delivered pursuant to the terms of the Plan, and in a manner and for the consideration stated in the Plan, such Plan Shares will be validly issued, fully paid and non-assessable.

We express no opinion as to the applicability or compliance with or effect of federal law or the law of any other jurisdiction other than the General Corporation Law of the State of Delaware (including the statutory provisions, the applicable provisions of the Delaware Constitution and reported judicial decisions interpreting the foregoing).

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. 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 Securities and Exchange Commission. This opinion is being delivered in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act

This opinion has been prepared for your use in connection with the issuance of the Plan Shares under the Plan and speaks as of the date hereof. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention, whether or not such occurrence would affect or modify the opinions expressed herein.

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

Very truly yours,

/s/ Cozen O'Connor P.C.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of Aileron Therapeutics, Inc. of our report dated March 20, 2023 relating to the financial statements, which appears in Aileron Therapeutics, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2023.

/s/ PricewaterhouseCoopers LLP Boston, Massachusetts May 1, 2024

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Aileron Therapeutics, Inc. (the "Company") on Form S-8 (File No. 333-258717) of our report dated April 15, 2024, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, with respect to our audit of the consolidated financial statements of Aileron Therapeutics, Inc. as of December 31, 2023 and for the year ended December 31, 2023 appearing in the Annual Report on Form 10-K of Aileron Therapeutics, Inc. for the year ended December 31, 2023.

/s/ Marcum LLP

Marcum LLP New York, NY May 1, 2024

CONSENT OF INDEPENDENT AUDITORS

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated May 25, 2023 relating to the financial statements of Lung Therapeutics, Inc., appearing in the Current Report on Form 8-K/A of Aileron Therapeutics, Inc. filed on January 11, 2024.

/s/ Deloitte & Touche LLP

Morristown, NJ

May 1, 2024

Calculation of Filing Fee Tables

Form S-8 (Form Type)

Aileron 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, \$0.001	Rule 457(c) and					
	par value per share	Rule 457(h)	3,000,000 (2)	\$4.9034 (3)	\$14,710,200 (3)	0.00014760	\$2,171.23
Total Offering Amounts					\$14,710,200		\$2,171.23
Total Fee Offsets							_
Net Fee Due							\$2,171.23

⁽¹⁾In accordance with Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued under the Registrant's 2021 Stock Incentive Plan, as amended (the "Plan") to prevent dilution resulting from stock splits, stock dividends or similar transactions.

⁽²⁾ Represents an additional 3,000,000 shares of the Registrant's common stock, \$0.001 par value per share, authorized to be issued under the Plan.

⁽³⁾Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act, and based upon the average of the high and low prices of the Registrant's common stock as reported on the Nasdaq Capital Market on April 29, 2024.