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

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

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**LARIMAR THERAPEUTICS, INC.**  
(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**20-3857670**  
(I.R.S. Employer  
Identification No.)

**Three Bala Plaza East, Suite 506**  
**Bala Cynwyd, Pennsylvania**  
(Address of Principal Executive Offices)

**19004**  
(Zip Code)

**Larimar Therapeutics, Inc. 2020 Equity Incentive Plan**  
(Full title of the plan)

**Carole S. Ben-Maimon, M.D.**  
**President and Chief Executive Officer**  
**Larimar Therapeutics, Inc.**  
**Three Bala Plaza East, Suite 506**  
**Bala Cynwyd, Pennsylvania 19004**  
(Name and address of agent for service)

**(844) 511-9056**  
(Telephone number, including area code, of agent for service)

*Copies to:*

**Rachael M. Bushey**  
**Jennifer L. Porter**  
**Goodwin Procter LLP**  
**2929 Arch Street, Suite 1700**  
**Philadelphia, PA 19104**  
**(445) 207-7805**

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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   
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.

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## EXPLANATORY NOTE

This Registration Statement is being filed for the purpose of registering an additional 1,703,895 shares of common stock, par value \$0.001 per share (the “Common Stock”), of Larimar Therapeutics, Inc. (the “Registrant”) that were added to the shares authorized for issuance under the Larimar Therapeutics, Inc. 2020 Equity Incentive Plan (the “Plan”) and for which a Registration Statement on Form S-8 relating to the same employee benefit plan is effective.

The Registrant previously filed a Registration Statement on Form S-8 (File No. 333-249287) with the Securities and Exchange Commission (the “Commission”) to register 3,050,000 shares of Common Stock that were authorized for issuance under the Plan. Upon the effectiveness of this Registration Statement, an aggregate of 4,753,895 shares of Common Stock will be registered for issuance from time to time under the Plan. Pursuant to General Instruction E to Form S-8, the contents of the Registration Statement on Form S-8 (File No. 333-249287) filed with the Commission on October 2, 2020 are incorporated herein by reference except to the extent supplemented, amended or superseded by the information set forth herein. Only those items of Form S-8 containing new information not contained in the earlier registration statement are presented herein.

## PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

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

The following documents of the Registrant filed with the Commission are incorporated by reference in this Registration Statement as of their respective dates:

- (a) the Registrant’s Annual Report on [Form 10-K](#) for the year ended December 31, 2022, filed with the Commission on March 14, 2023;
- (b) the Registrant’s Current Reports on Form 8-K (in each case other than portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits accompanying such reports related to such items) filed on [January 9, 2023](#), [February 7, 2023](#) and [March 14, 2023](#); and
- (c) the description of the Registrant’s Common Stock contained in the Registration Statement on [Form 8-A](#) filed with the Commission on June 18, 2014 (File No. 001-36510), together with any amendment thereto filed with the Commission for the purpose of updating such description.

All documents subsequently filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (other than information furnished under Item 2.02 or 7.01 of Form 8-K and exhibits furnished on such form that relate to such items unless such form expressly provides to the contrary) 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 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 purposes of this Registration Statement to the extent that a statement contained in any subsequently filed document that also is deemed to be incorporated by reference herein modifies or supersedes such statement.

**Item 8. Exhibits.**

The following documents are filed as exhibits to this Registration Statement:

<b>Exhibit Number</b>	<b>Description of Exhibit</b>
4.1	<a href="#"><u>Ninth Amended and Restated Certificate of Incorporation of Larimar Therapeutics, Inc. (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-36510) filed on June 24, 2014)</u></a>
4.2	<a href="#"><u>Certificate of Amendment of Ninth Amended and Restated Certificate of Incorporation of Zafgen, Inc. related to the Reverse Stock Split, dated May 28, 2020 (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-36510) filed on June 2, 2020)</u></a>
4.3	<a href="#"><u>Certificate of Amendment of Ninth Amended and Restated Certificate of Incorporation of Zafgen, Inc. related to the Name Change, dated May 28, 2020 (incorporated herein by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K (File No. 001-36510) filed on June 2, 2020)</u></a>
4.4	<a href="#"><u>Amended and Restated Bylaws of Larimar Therapeutics, Inc. (incorporated herein by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K (File No. 001-36510) filed on June 24, 2014)</u></a>
5.1*	<a href="#"><u>Opinion of Goodwin Procter LLP</u></a>
23.1*	<a href="#"><u>Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm for Larimar Therapeutics, Inc.</u></a>
23.2*	<a href="#"><u>Consent of Goodwin Procter LLP (contained in Exhibit 5.1)</u></a>
24.1*	<a href="#"><u>Power of Attorney (included on the signature page of this Registration Statement)</u></a>
99.1	<a href="#"><u>Larimar Therapeutics, Inc. 2020 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K/A (File No. 001-36510) filed on September 29, 2020)</u></a>
99.2	<a href="#"><u>Form of Stock Option Grant Notice and Award Agreement (incorporated herein by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K/A (File No. 001-36510) filed on September 29, 2020)</u></a>
99.3	<a href="#"><u>Form of Restricted Stock Unit Award Agreement (incorporated herein by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K (File No. 001-36510) filed on March 14, 2023)</u></a>
107*	<a href="#"><u>Filing Fee Table</u></a>

\* Filed herewith

## 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 Bala Cynwyd, Commonwealth of Pennsylvania, on March 14, 2023.

### LARIMAR THERAPEUTICS, INC.

By: /s/ Carole S. Ben-Maimon, M.D.

Carole S. Ben-Maimon, M.D.

*President and Chief Executive Officer*

## POWER OF ATTORNEY

*KNOW ALL PERSONS BY THESE PRESENTS*, that each person whose signature appears below hereby constitutes and appoints each of Carole S. Ben-Maimon, M.D. and Michael Celano as his or her true and lawful attorney-in-fact and agent with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this Registration Statement (including 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 attorney-in-fact, proxy, and agent 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 for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact, proxy and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Carole S. Ben-Maimon, M.D.</u> Carole S. Ben-Maimon, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	March 14, 2023
<u>/s/ Michael Celano</u> Michael Celano	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 14, 2023
<u>/s/ Joseph Truitt</u> Joseph Truitt	Chairman, Board of Directors	March 14, 2023
<u>/s/ Peter Barrett, Ph.D.</u> Peter Barrett, Ph.D.	Director	March 14, 2023
<u>/s/ Thomas E. Hamilton</u> Thomas E. Hamilton	Director	March 14, 2023
<u>/s/ Jonathan Leff</u> Jonathan Leff	Director	March 14, 2023
<u>/s/ Frank Thomas</u> Frank Thomas	Director	March 14, 2023

March 14, 2023

Larimar Therapeutics, Inc.  
Three Bala Plaza East, Suite 506  
Bala Cynwyd, PA 19004

Re: Securities Being Registered under Registration Statement on Form S-8

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-8 (the "Registration Statement") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), on or about the date hereof relating to an aggregate of 1,703,895 shares (the "Shares") of Common Stock, \$0.001 par value per share ("Common Stock"), of Larimar Therapeutics, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Company's 2020 Equity Incentive Plan (the "Plan").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

For purposes of the opinion set forth below, we have assumed that no event occurs that causes the number of authorized shares of Common Stock available for issuance by the Company to be less than the number of then unissued Shares.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Plan, will be validly issued, fully paid and nonassessable.

This opinion letter and the opinion it contains shall be interpreted in accordance with the Core Opinion Principles as published in *74 Business Lawyer* 815 (Summer 2019).

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement. In giving our consent, we do not 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 thereunder.

Very truly yours,

/s/ GOODWIN PROCTER LLP

GOODWIN PROCTER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of Larimar Therapeutics, Inc. of our report dated March 14, 2023 relating to the financial statements, which appears in Larimar Therapeutics, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2022.

/s/ PricewaterhouseCoopers LLP  
Philadelphia, Pennsylvania  
March 14, 2023

**Calculation of Filing Fee Tables**

**Form S-8**  
(Form Type)

**Larimar 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, par value \$0.001 per share	457(c) and 457(h)	1,703,895(2)	\$5.66(3)	\$9,644,045.70(3)	0.0001102	\$1,062.78
<b>Total Offering Amounts</b>					\$9,644,045.70		\$1,062.78
<b>Total Fee Offsets</b>							0
<b>Net Fee Due</b>							\$1,062.78

- (1) Pursuant to Rule 416 of the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement on Form S-8 shall also cover an indeterminate number of additional shares of common stock, par value \$0.001 per share ("Common Stock"), of Larimar Therapeutics, Inc. (the "Registrant") issuable under the Larimar Therapeutics, Inc. 2020 Equity Incentive Plan (the "Plan") by reason of any future stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration by the Registrant, which results in an increase in the number of outstanding shares of Common Stock.
- (2) Represents shares of Common Stock that were added to the shares authorized for issuance under the Plan on January 1, 2023, pursuant to an "evergreen" provision contained in the Plan. Pursuant to such provision in the Plan, as of the first day of each fiscal year, the aggregate number of shares of Common Stock that may be issued under the Plan shall automatically increase by a number equal to the lesser of (i) 4.0% of the total number of shares of Common Stock issued and outstanding on December 31 of the immediately preceding fiscal year and (ii) such smaller number of shares of Common Stock as determined by the Registrant's Board of Directors. Shares available for issuance under the Plan were previously registered on Form S-8 filed with the Securities and Exchange Commission on October 2, 2020 (Registration No. 333-249287).
- (3) Estimated pursuant to Rule 457(c) and Rule 457(h) of the Securities Act solely for the purpose of calculating the registration fee on the basis of the average of the high and low prices of the Common Stock as reported on The Nasdaq Global Market on March 13, 2023.