As filed with the Securities and Exchange Commission on February 26, 2026

Registration No. 333-

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

FORM S-8
REGISTRATION STATEMENT
Under
The Securities Act of 1933

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

Delaware	**47-3923475**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

60 Hampshire Street
Cambridge, MA 02139
(617) 370-8837
(Address of Principal Executive Offices)

Relay Therapeutics, Inc. 2020 Stock Option and Incentive Plan
Relay Therapeutics, Inc. 2020 Employee Stock Purchase Plan
(Full Title of the Plans)

Sanjiv K. Patel
President and Chief Executive Officer
Relay Therapeutics, Inc.
60 Hampshire Street
Cambridge, MA 02139
(617) 370-8837
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:
William Collins, Esq.
Gabriela Morales-Rivera, Esq.
Goodwin Procter LLP
100 Northern Avenue
Boston, Massachusetts 02210
(617) 570-1000

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	☒	Accelerated filer	☐	Non-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

This Registration Statement on Form S-8 is being filed for the purpose of registering (i) an additional 8,693,447 shares of common stock, par value $0.001 per share ("Common Stock") of Relay Therapeutics, Inc. (the "Registrant") to be issued under the Registrant's 2020 Stock Option and Incentive Plan, as amended (the "2020 Plan") and (ii) an additional 1,738,689 shares of Common Stock of the Registrant to be issued under the Registrant's 2020 Employee Stock Purchase Plan (the "2020 ESPP"), for which Registration Statements on Form S-8 relating to the same employee benefit plans are effective.

Pursuant to General Instruction E to Form S-8, the contents of the Registration Statements on Form S-8 filed with the Commission on July 17, 2020 (File No. 333-239912), March 25, 2021 (File No. 333-254704), February 24, 2022 (File No. 333-262974), February 23, 2023 (File No. 333-269959), February 22, 2024 (File No. 333-277278) and February 26, 2025 (File No. 333-285281) related to the 2020 Plan and the 2020 ESPP are incorporated 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 Statements are presented herein.

Part II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 8. Exhibits.

The exhibits to this Registration Statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

EXHIBIT INDEX

Exhibit No.	Description
4.1	Fourth Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Form 10-K (File No. 001-39385) filed on February 23, 2023).
4.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Form 8-K (File No. 001-39385) filed on July 21, 2020).
4.3	Specimen stock certificate evidencing the shares of common stock (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1/A (File No. 333-239412) filed on July 9, 2020).
4.4	Description of Securities (incorporated by reference to Exhibit 4.2 to the Registrant's Annual Report on Form 10-K (File No. 001-39385) filed on February 22, 2024).
5.1*	Opinion of Goodwin Procter LLP
23.1*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm
23.2*	Consent of Goodwin Procter LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on signature page)
99.1	2020 Stock Option and Incentive Plan, and form of award agreements thereunder (incorporated by reference to Exhibit 10.2 to the Registrant's Form 10-K (File No. 001-39385) filed on February 24, 2022).
99.2	2020 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.3 of the Registrant's Registration Statement on Form S-1/A (File No. 333-239412) filed on July 9, 2020).
107*	Filing Fee Table

* 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 the city of Cambridge, Commonwealth of Massachusetts, on the 26th day of February, 2026.

RELAY THERAPEUTICS, INC.

By: /s/ Sanjiv K. Patel
Sanjiv K. Patel, M.D.
President and Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY AND SIGNATURES

KNOW ALL BY THESE PRESENT, that each individual whose signature appears below hereby constitutes and appoints each of Sanjiv K. Patel, M.D. and Soo-Yeun Lim as such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for such person in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission granting unto each said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, 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 dates indicated.

Name	Title	Date
/s/ Sanjiv K. Patel Sanjiv K. Patel, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	February 26, 2026
/s/ Thomas Catinazzo Thomas Catinazzo	Chief Financial Officer (Principal Accounting Officer and Principal Financial Officer)	February 26, 2026
/s/ Alexis Borisy Alexis Borisy	Director	February 26, 2026
/s/ Linda A. Hill Linda A. Hill, Ph.D.	Director	February 26, 2026
/s/ Douglas S. Ingram Douglas S. Ingram	Director	February 26, 2026
/s/ Sekar Kathiresan Sekar Kathiresan, M.D.	Director	February 26, 2026
/s/ Mark Murcko Mark Murcko, Ph.D.	Director	February 26, 2026
/s/ Claire Mazumdar Claire Mazumdar	Director	February 26, 2026
/s/ Habib Dable Habib Dable	Director	February 26, 2026
/s/ Lonnel Coats Lonnel Coats	Director	February 26, 2026

Exhibit 5.1

February 26, 2026

Relay Therapeutics, Inc.
60 Hampshire Street
Cambridge, MA 02139

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

We have acted as your counsel 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 10,432,136 shares (the "Shares") of Common Stock, par value $0.001 per share ("Common Stock"), of Relay Therapeutics, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Company's 2020 Stock Option and Incentive Plan, as amended, and 2020 Employee Stock Purchase Plan (collectively, the "Plans").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinion 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.

For purposes of the opinion set forth below, we have assumed that, at the time Shares are issued, the total number of then unissued Shares, when added to the number of shares of Common Stock issued, subscribed for, or otherwise committed to be issued, does not exceed the number of shares of Common Stock authorized by the Company's certificate of incorporation.

The opinion set forth below is limited to the Delaware General Corporation Law.
Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, when delivered against payment therefor in accordance with the terms of the Plans, 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 Proctor LLP

GOODWIN PROCTOR LLP

Exhibit 23.1

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 Option and Incentive Plan and 2020 Employee Stock Purchase Plan of Relay Therapeutics, Inc. of our reports dated February 26, 2026, with respect to the consolidated financial statements of Relay Therapeutics, Inc. and the effectiveness of internal control over financial reporting of Relay Therapeutics, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2025, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts
February 26, 2026

Exhibit 107

Calculation of Filing Fee Table

Form S-8
(Form Type)

Relay 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 to be Registered(1)	Proposed Maximum Offering Price per Share	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Equity	Common Stock, $0.001 par value per share	Other (2)	8,693,447 shares (3)	$ 9.25 (2)	$ 80,414,384.75 (2)	$0.00013810	$ 11,105.23
Equity	Common Stock, $0.001 par value per share	Other (4)	1,738,689 shares (5)	$ 7.87 (4)	$ 13,683,482.43 (4)	$0.00013810	$ 1,889.69
Total Offering Amounts					$ 94,097,867.18		$ 12,994.92
Total Fees Previously Paid							—
Total Fee Offsets							—
Net Fee Due							$ 12,994.92

(1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall be deemed to cover any additional shares of common stock, $0.001 par value per share ("Common Stock") which become issuable under the Registrant's 2020 Stock Option and Incentive Plan, as amended (the "2020 Plan") and the Registrant's 2020 Employee Stock Purchase Plan (the "2020 ESPP"), by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration which results in an increase in the number of the Registrant's outstanding shares of Common Stock.

(2) 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 reported for the Common Stock on the Nasdaq Global Market on February 24, 2026.

(3) Represents shares of Common Stock that were added to the shares authorized for issuance under the 2020 Plan, effective as of January 1, 2026 pursuant to an "evergreen" provision contained in the 2020 Plan. Pursuant to such provision, an additional number of shares will automatically be added to the shares authorized for issuance under the 2020 Plan on January 1 of each year. Shares available for issuance under the 2020 Plan were previously registered on registration statements on Form S-8 filed with the Securities and Exchange Commission on July 17, 2020 (File No. 333-239912), March 25, 2021 (File No. 333-254704), February 24, 2022 (File No. 333-262974), February 23, 2023 (File No. 333-269959), February 22, 2024 (File No. 333-277278) and February 26, 2025 (File No. 333-285281).

(4) The price of $7.87 per share, which is 85% of the average of the high and low sale prices of the Common Stock of the Registrant as quoted on the Nasdaq Global Market on February 24, 2026, is set forth solely for purposes of calculating the registration fee pursuant to Rules 457(c) and (h) of the Securities Act of 1933, as amended, and has been used as these shares are without a fixed price. Pursuant to the 2020 ESPP, the purchase price of the shares of Common Stock reserved for issuance thereunder will be 85% of the fair market value of a share of Common Stock on the first trading day of the offering period or on the exercise date, whichever is less.

(5) Represents shares of Common Stock that were added to the shares authorized for issuance under the 2020 ESPP, effective as of January 1, 2026 pursuant to an "evergreen" provision contained in the 2020 ESPP.

Pursuant to such provision, an additional number of shares will automatically be added to the shares authorized for issuance under the 2020 ESPP on January 1 of each year. Shares available for issuance under the 2020 ESPP were previously registered on registration statements on Form S-8 filed with the Securities and Exchange Commission on July 17, 2020 (File No. 333-239912), March 25, 2021 (File No. 333-254704), February 24, 2022 (File No. 333-262974), February 23, 2023 (File No. 333-269959), February 22, 2024 (File No. 333-277278) and February 26, 2025 (File No. 333-285281).