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

FORM S-8 REGISTRATION STATEMENT UNDER

THE SECURITIES ACT OF 1933

PRAXIS PRECISION MEDICINES, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)

One Broadway, 16th Floor Cambridge, MA (Address of Principal Executive Offices) 47-5195942 (I.R.S. Employer Identification No.)

> 02142 (Zip Code)

PRAXIS PRECISION MEDICINES, INC. 2020 STOCK OPTION AND INCENTIVE PLAN PRAXIS PRECISION MEDICINES, INC. 2020 EMPLOYEE STOCK PURCHASE PLAN (Full title of the plan)

> Marcio Souza Chief Executive Officer Praxis Precision Medicines, Inc. One Broadway, 16th Floor Cambridge, MA 02142 (Name and address of agent for service)

617-300-8460 (Telephone number, including area code, of agent for service)

Copies to:

Richard A. Hoffman, Esq. William D. Collins, 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 \Box

Non-accelerated filer

Accelerated filer \Box

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 pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.0001 par value per share	1,913,427 shares(2)	\$44.11(3)	\$84,401,264.97	\$9,208.18
Common Stock, \$0.0001 par value per share	327,102 shares(4)	\$37.49(5)	\$12,263,053.98	\$1,337.90
Total	2,240,529 shares		\$96,664,318.95	\$10,546.08

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall also cover any additional shares of common stock which become issuable under the Praxis Precision Medicines, Inc. 2020 Stock Option and Incentive Plan (the "2020 Plan") and the Praxis Precision Medicines, Inc. 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) Represents an automatic increase of 1,913,427 shares of common stock to the number of shares available for issuance under the 2020 Plan, effective January 1, 2021. Shares available for issuance under the 2020 Plan were previously registered on a registration statement on Form S-8 filed with the Securities and Exchange Commission on October 16, 2020 (File No. 333-249522).
- (3) The price of \$44.11 per share, which is the average of the high and low sale prices of the common stock of the registrant as quoted on the Nasdaq Global Select Market on March 12, 2021, is set forth solely for purposes of calculating the registration fee pursuant to Rules 457(c) and (h) of the Securities Act, and has been used as these shares are without a fixed price.
- (4) Represents an automatic increase of 327,102 shares of common stock to the number of shares available for issuance under the 2020 ESPP, effective January 1, 2021. Shares available for issuance under the 2020 ESPP were previously registered on a registration statement on Form S-8 filed with the Securities and Exchange Commission on October 16, 2020 (File No. 333-249522).
- (5) The price of \$37.49 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 Select Market on March 12, 2021, 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.

EXPLANATORY NOTE

This Registration Statement on Form S-8 registers 1,913,427 additional shares of common stock under the Praxis Precision Medicines, Inc. 2020 Stock Option and Incentive Plan (the "2020 Plan") and 327,102 additional shares of common stock under the Praxis Precision Medicines, Inc. 2020 Employee Stock Purchase Plan (the "2020 ESPP"). The number of shares of common stock reserved and available for issuance under the 2020 Plan is subject to an automatic annual increase on each January 1, beginning in 2021, by an amount equal to five percent of the number of shares of common stock issued and outstanding on the immediately preceding December 31 or such lesser number of shares of common stock as determined by the Administrator (as defined in the 2020 Plan). Accordingly, on January 1, 2021, the number of shares of common stock reserved and available for issuance under the 2020 Plan increased by 1,913,427 shares. The number of shares of common stock reserved and available for issuance under the 2020 ESPP is subject to an automatic annual increase on each January 1, beginning in 2021, by the least of (i) 327,102 shares of common stock, (ii) an amount equal to one percent of the number of shares of common stock issued and outstanding on the immediately preceding December 31 or (iii) such lesser number of shares of common stock as determined by the Administrator (as defined in the 2020 ESPP). Accordingly, on January 1, 2021, the number of shares of common stock as determined by the Administrator (as defined in the 2020 ESPP). Accordingly, on January 1, 2021, the number of shares of common stock reserved and available for issuance under the 2020 ESPP increased by 327,102 shares. The additional shares are of the same class as other securities relating to the 2020 Plan and the 2020 ESPP for which the Registrant's registration statement filed on Form S-8 filed with the Securities and Exchange Commission on October 16, 2020 (File No. 333-249522), is effective. The information contained in the Registrant's registration statement

Part II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 8. Exhibits.

Exhibit <u>No.</u>	Description
4.1	Amended and Restated Certificate of Incorporation of the Registrant (Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-39620) filed with the Securities and Exchange Commission on October 20, 2020).
4.2	Amended and Restated Bylaws of the Registrant (Incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-39620) filed with the Securities and Exchange Commission on October 20, 2020).
4.3	Specimen Common Stock Certificate of the Registrant (Incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1/A (Registration No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).
4.4	Fourth Amended and Restated Investors' Rights Agreement by and among the Registrant and certain of its stockholders dated July 24, 2020 (Incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-1 (Registration No. 333-249074) filed with the Securities and Exchange Commission on September 25, 2020).
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 (Incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).
99.2	Form of Incentive Stock Option Agreement under the Registrant's 2020 Stock Option and Incentive Plan (Incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).
99.3	Form of Non-Qualified Stock Option Agreement for Company Employees under the Registrant's 2020 Stock Option and Incentive Plan (Incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).
99.4	Form of Non-Qualified Stock Option Agreement for Non-Employee Directors under the Registrant's 2020 Stock Option and Incentive Plan (Incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).
99.5	Form of Restricted Stock Award Agreement under the Registrant's 2020 Stock Option and Incentive Plan (Incorporated by reference to Exhibit 10.8 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).

- 99.6 Form of Restricted Stock Award Agreement for Company Employees under the Registrant's 2020 Stock Option and Incentive Plan (Incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).
- 99.7 Form of Restricted Stock Award Agreement for Non-Employee Directors under the Registrant's 2020 Stock Option and Incentive Plan (Incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-249074) filed with the Securities and Exchange Commission on October 9, 2020).
- 99.8 2020 Employee Stock Purchase Plan (Incorporated by reference to Exhibit 10.11 to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-240264) filed with the Securities and Exchange Commission on October 9, 2020).

* 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 Cambridge, Commonwealth of Massachusetts, on March 17, 2021.

Praxis Precision Medicines, Inc.

By: /s/ Marcio Souza

Marcio Souza Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Marcio Souza and Alex Nemiroff, and each of them, as such person's true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them, for such person in such person's, place and stead, 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 of Praxis Precision Medicines, Inc., and any or all amendments (including post-effective amendments), 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 or necessary to be done in connection therewith and about the premises, 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 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, as amended, this Registration Statement on Form S-8 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date	
/s/ Marcio Souza Marcio Souza	Chief Executive Officer and Director (Principal Executive Officer)	March 17, 2021	
/s/ Lauren Mastrocola Lauren Mastrocola	Principal Accounting Officer and Interim Principal Financial Officer	March 17, 2021	
/s/ Dean Mitchell Dean Mitchell	Chairman of the Board	March 17, 2021	
/s/ Nicholas Galakatos Nicholas Galakatos, Ph.D.	Director	March 17, 2021	
/s/ Gregory Norden Gregory Norden	Director	March 17, 2021	
/s/ Kiran Reddy Kiran Reddy, M.D.	Director	March 17, 2021	
/s/ Stefan Vitorovic Stefan Vitorovic	Director	March 17, 2021	
/s/ William Young William Young	Director	March 17, 2021	



Goodwin Procter LLP 100 Northern Avenue Boston, MA 02210

Exhibit 5.1

goodwinlaw.com +1 617 570 1000

March 17, 2021

Praxis Precision Medicines, Inc. One Broadway, 16th Floor Cambridge, MA 02142

Re: <u>Securities Being Registered under Registration Statement on Form S-8</u>

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 (i) 1,913,427 shares (the "Plan Shares") of common stock, \$0.0001 par value per share (the "Common Stock"), of Precision Medicines, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Precision Medicines, Inc. 2020 Stock Option and Incentive Plan (the "Incentive Plan") and (ii) 327,102 shares (the "ESPP Shares" and together with the Plan Shares, the "Shares") of Common Stock of the Company that may be issued pursuant to the Praxis Precision Medicines, Inc. 2020 Employee Stock Purchase Plan (the "ESPP" and, together with the Incentive Plan, 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.

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 Plans, will be validly issued, fully paid and nonassessable.

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 consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Praxis Precision Medicines, Inc. 2020 Stock Option and Incentive Plan, and the Praxis Precision Medicines, Inc. 2020 Employee Stock Purchase Plan of our report dated March 17, 2021, with respect to the consolidated financial statements of Praxis Precision Medicines, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2020, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts March 17, 2021