UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933

Blueprint Medicines Corporation

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation) **45 Sidney Street** Cambridge, Massachusetts (Address of principal executive offices) 26-3632015

(I.R.S. Employer Identification No.)

02139

(Zip Code)

2015 Stock Option and Incentive Plan 2015 Employee Stock Purchase Plan (Full titles of the plans)

Kathryn Haviland **President and Chief Executive Officer Blueprint Medicines Corporation 45 Sidney Street** Cambridge, Massachusetts 02139 (Name and address of agent for service)

(617) 374-7580

(Telephone number, including area code, of agent for service)

Please send copies of all communications to:

Kingsley L. Taft, Esq. Danielle M. Lauzon, Esq. Yasin Akbari, 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 ☑ Non-accelerated filer □

Accelerated filer □ Smaller reporting company □ Emerging growth company \square

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 \Box

EXPLANATORY NOTE

This Registration Statement on Form S-8 relating to the 2015 Stock Option and Incentive Plan (as amended, the "2015 Plan") and the 2015 Employee Stock Purchase Plan (as amended, the "2015 ESPP") of Blueprint Medicines Corporation (the "Registrant") is being filed for the purpose of registering additional securities of the same class as other securities for which a Registration Statement on Form S-8 has previously been filed and is effective. Accordingly, this Registration Statement on Form S-8 incorporates by reference the contents of (i) the Registration Statement on Form S-8 (File No. 333-203749) filed with the Securities and Exchange Commission (the "SEC") on April 30, 2015 by the Registrant, relating to the 2015 Plan and the 2015 ESPP, (ii) the Registration Statement on Form S-8 (File No. 333-210125) filed with the SEC on March 11, 2016 by the Registrant, relating to the 2015 Plan and the 2015 ESPP, (iii) the Registration Statement on Form S-8 (File No. 333-216575) filed with the SEC on March 9, 2017 by the Registrant, relating to the 2015 Plan and the 2015 ESPP, (iv) the Registration Statement on Form S-8 (File No. 333-223131) filed with the SEC on February 21, 2018 by the Registrant, relating to the 2015 Plan and the 2015 ESPP, (vi) the Registration Statement on Form S-8 (File No. 333-229885) filed with the SEC on February 13, 2020 by the Registrant, relating to the 2015 Plan and the 2015 ESPP, (vii) the Registration Statement on Form S-8 (File No. 333-236421) filed with the SEC on February 17, 2021 by the Registrant, relating to the 2015 Plan and the 2015 ESPP, (viii) the Registration Statement on Form S-8 (File No. 333-253215) filed with the SEC on February 17, 2021 by the Registrant, relating to the 2015 Plan and the 2015 ESPP in each case, except for "Item 8. Exhibits" with respect to which the Exhibit Index set forth below is incorporated herein by reference.

EXHIBIT INDEX

		Incorporated by Reference			
Exhibit Number	Description of Exhibit	Form	File No.	Exhibit Number	Filing Date
3.1	Fifth Amended and Restated Certificate of Incorporation of the Registrant	10-Q	001-37359	3.1	November 9, 2015
3.2	Amended and Restated Bylaws, as amended on November 30, 2022, of the Registrant	8-K	001-37359	3.1	December 6, 2022
4.1	Specimen Common Stock Certificate	S-1/A	333-202938	4.1	April 20, 2015
5.1	Opinion of Goodwin Procter LLP, counsel to the Registrant				*
23.1	Consent of Ernst & Young LLP, an independent registered public accounting <u>firm</u>				*
23.2	Consent of Goodwin Procter LLP (included in Exhibit 5.1)				*
24.1	<u>Power of attorney (included on the signature pages of this registration statement)</u>				*
99.1	2015 Stock Option and Incentive Plan and forms of award agreements thereunder	10-K	001-37359	10.2	February 13, 2020
99.2	2015 Employee Stock Purchase Plan	10-K	001-37359	10.3	February 13, 2020
107	Filing Fee Exhibit				*
-	P2.11 - 24				

^{*} 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 this 17th day of February, 2023.

BLUEPRINT MEDICINES CORPORATION

By: /s/ Kathryn Haviland
Kathryn Haviland
President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Blueprint Medicines Corporation, hereby severally constitute and appoint Kathryn Haviland and Michael Landsittel, and each of them singly, our true and lawful attorneys with full power to any of them, and to 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 amendments to said Registration Statement, and generally to do all such things in our name and on our behalf in our capacities as officers and directors to enable Blueprint Medicines Corporation 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/ Kathryn Haviland Kathryn Haviland	President and Chief Executive Officer (Principal Executive Officer)	February 17, 2023
/s/ Michael Landsittel Michael Landsittel	Chief Financial Officer (Principal Financial Officer)	February 17, 2023
/s/ Ariel Hurley Ariel Hurley	Senior Vice President, Finance (Principal Accounting Officer)	February 17, 2023
/s/ Jeffrey W. Albers Jeffrey W. Albers	Chairman of the Board of Directors	February 17, 2023
/s/ Daniella Beckman Daniella Beckman	Director	February 17, 2023
/s/ Alexis Borisy Alexis Borisy	Director	February 17, 2023
/s/ Lonnel Coats Lonnel Coats	Director	February 17, 2023
/s/ Habib Dable Habib Dable	Director	February 17, 2022
/s/ Mark Goldberg Mark Goldberg, M.D.	Director	February 17, 2023
/s/ Nicholas Lydon Nicholas Lydon, Ph.D.	Director	February 17, 2023
/s/ Lynn Seely Lynn Seely, M.D.	Director	February 17, 2023
/s/ John Tsai John Tsai, M.D.	Director	February 17, 2023

Blueprint Medicines Corporation 45 Sidney Street Cambridge, MA 02139

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 2,997,945 shares (the "Shares") of Common Stock, \$0.001 par value per share ("Common Stock"), of Blueprint Medicines Corporation, a Delaware corporation (the "Company"), that may be issued pursuant to the Company's 2015 Stock Option and Incentive Plan and 2015 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 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 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 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 2015 Stock Option and Incentive Plan and 2015 Employee Stock Purchase Plan of Blueprint Medicines Corporation of our reports dated February 16, 2023, with respect to the consolidated financial statements of Blueprint Medicines Corporation and the effectiveness of internal control over financial reporting of Blueprint Medicines Corporation included in its Annual Report (Form 10-K) for the year ended December 31, 2022, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts February 17, 2023

Calculation of Filing Fee Tables

Form S-8 (Form Type)

Blueprint Medicines Corporation (Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

				Proposed			
				Maximum	Maximum		
		Fee		Offering	Aggregate		Amount of
Security		Calculation	Amount	Price Per	Offering	Fee	Registration
Type	Security Class Title	Rule	Registered (1)	Share	Price	Rate	Fee
Equity	2015 Stock Option and Incentive Plan Common Stock, \$0.001 par value per share	457(h)	2,398,356	\$42.20(2)	\$101,210,623.20 (2)	.0001102	\$11,153.42
Equity	2015 Employee Stock Purchase Plan Common Stock, \$0.001 par value per share	457(h)	599,589	\$35.87(3)	\$21,507,257.43 (3)	.0001102	\$2,370.10
Total Offering Amounts					\$122,717,880.63		\$13,523.52
Total Fee Offsets							\$0
Net Fee Due							\$13,523,52

- (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 shares of common stock that may from time to time be offered or issued under the above-named plans to prevent dilution resulting from stock splits, stock dividends, recapitalizations or similar transactions effected without the receipt of consideration which results in an increase in the number of the Registrant's outstanding shares of Common Stock. Pursuant to Rule 416(c) under the Securities Act, this Registration Statement shall also cover an indeterminate amount of interests to be offered or sold pursuant to the employee benefit plans described herein.
- (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 of the Registrant's Common Stock as reported on The Nasdaq Global Select Market on February 10, 2023.
- (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 Global Select Market on February 10, 2023, multiplied by 85%, which is the percentage of the price per share applicable to purchasers under the 2015 Employee Stock Purchase Plan.