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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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**Mirum Pharmaceuticals, Inc.**

(Exact name of registrant as specified in its charter)

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

**83-1281555**  
(I.R.S. Employer  
Identification No.)

**950 Tower Lane, Suite 1050  
Foster City, California**  
(Address of Principal Executive Offices)

**94404**  
(Zip Code)

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**2019 Equity Incentive Plan  
2019 Employee Stock Purchase Plan  
2020 Inducement Plan**

(Full titles of the plans)

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**Christopher Peetz  
President and Chief Executive Officer  
Mirum Pharmaceuticals, Inc.  
950 Tower Lane, Suite 1050  
Foster City, California 94404  
(650) 667-4085**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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*Copies to:*  
**Jason L. Kent  
Alexa M. Ekman  
Cooley LLP  
4401 Eastgate Mall  
San Diego, California 92121  
(858) 550-6000**

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

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.

#### CALCULATION OF REGISTRATION FEE

Title of Securities To Be Registered	Amount to be Registered <sup>(1)</sup>	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
<b>2019 Equity Incentive Plan</b>				
Common Stock, \$0.0001 par value per share	1,501,630 <sup>(2)</sup>	\$16.65 <sup>(4)</sup>	\$25,002,140 <sup>(4)</sup>	\$2,728
<b>2019 Employee Stock Purchase Plan</b>				
Common Stock, \$0.0001 par value per share	300,326 <sup>(3)</sup>	\$14.15 <sup>(5)</sup>	\$4,249,613 <sup>(5)</sup>	\$464
<b>2020 Inducement Plan</b>				
Common Stock, \$0.0001 par value per share	750,000	\$16.65 <sup>(4)</sup>	\$12,487,500 <sup>(4)</sup>	\$1,362
<b>Total</b>	<b>2,551,956</b>	<b>N/A</b>	<b>\$41,739,253</b>	<b>\$4,554</b>

- Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement on Form S-8 (this “Registration Statement”) shall also cover any additional shares of common stock (“Common Stock”) of Mirum Pharmaceuticals, Inc. (the “Registrant”) that become issuable under the Registrant’s 2019 Equity Incentive Plan (the “2019 Plan”), the Registrant’s 2019 Employee Stock Purchase Plan (the “2019 ESPP”) and the Registrant’s 2020 Inducement Plan (the “2020 Inducement Plan”) by reason of any stock dividend, stock split, recapitalization or other similar transaction.
- Represents shares of Common Stock that were added to the shares available for issuance under the 2019 Plan on January 1, 2021 pursuant to the automatic increase feature of such plan, which provides that the number of shares reserved for issuance under the 2019 Plan will automatically increase on January 1st of each year, for a period of not more than ten years, commencing on January 1, 2020 and ending on (and including) January 1, 2029, in an amount equal to the lesser of (i) 5% of the total number of shares of the Registrant’s capital stock outstanding on December 31st of the preceding calendar year and (ii) a number of shares of Common Stock designated by action of the Registrant’s board of directors prior to the applicable January 1st.
- Represents shares of Common Stock that were added to the shares available for issuance under the 2019 ESPP on January 1, 2021 pursuant to the automatic increase feature of such plan, which provides that the number of shares reserved for issuance under the 2019 ESPP will automatically increase on January 1st of each year, for a period of not more than ten years, commencing on January 1, 2020 and ending on (and including) January 1, 2029, in an amount equal to the lesser of (i) 1% of the total number of shares of the Registrant’s capital stock outstanding on December 31st of the preceding calendar year, (ii) 1,500,000 shares of Common Stock and (iii) a number of shares of Common Stock designated by action of the Registrant’s board of directors prior to the applicable January 1st.
- Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act. The proposed maximum aggregate offering price per share and proposed maximum aggregate offering price are calculated using the average of the high and low prices of the Common Stock as reported on the Nasdaq Global Market on March 5, 2021.

- (5) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act. The proposed maximum aggregate offering price per share and proposed maximum aggregate offering price are calculated using the average of the high and low prices of the Common Stock as reported on the Nasdaq Global Market on March 5, 2021, multiplied by 85%.
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## EXPLANATORY NOTE

This Registration Statement is being filed for the purpose of registering additional securities of the same class as other securities for which Registration Statements of the Registrant on Form S-8 relating to the same employee benefit plans are effective.

The Registrant previously registered (i) shares of Common Stock for issuance under the 2019 Plan and 2019 ESPP pursuant to a Registration Statement on [Form S-8](#) (File No. 333-233502) filed with the Securities and Exchange Commission (the "Commission") on August 28, 2019 and (ii) additional shares of Common Stock for issuance under the 2019 Plan and 2019 ESPP and shares of Common Stock for issuance under the 2020 Inducement Plan pursuant to a Registration Statement on [Form S-8](#) (File No. 333-238086) filed with the Commission on May 7, 2020 (collectively, the "Prior Registration Statements"). In accordance with General Instruction E to Form S-8, the contents of the Prior Registration Statements are hereby incorporated by reference.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

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

The Registrant hereby incorporates by reference into this Registration Statement the following documents previously filed by the Registrant with the Commission:

- (a) The Registrant's Annual Report on [Form 10-K](#), filed with the Commission on March 9, 2021; and
- (b) The description of the Registrant's Common Stock contained in the Registrant's Registration Statement on [Form 8-A](#) (File No. 001-38981) filed with the Commission on July 15, 2019 under Section 12(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this Registration Statement and 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 of such documents; provided, however, that documents or portions thereof that are furnished and not filed in accordance with the rules of the Commission shall not be deemed incorporated by reference into this Registration Statement. 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 herein or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not constitute a part of this Registration Statement, except as so modified or superseded.

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**Item 8. Exhibits.**

The exhibits to this Registration Statement are listed below:

<u>Exhibit Number</u>	<u>Description</u>
4.1	<a href="#"><u>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, filed with the Commission on July 25, 2019).</u></a>
4.2	<a href="#"><u>Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K, filed with the Commission on July 25, 2019).</u></a>
4.3	<a href="#"><u>Form of Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-232251), filed with the Commission on July 8, 2019).</u></a>
4.4	<a href="#"><u>Investors' Rights Agreement, dated November 5, 2018 (incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-232251), filed with the Commission on June 21, 2019).</u></a>
5.1	<a href="#"><u>Opinion of Cooley LLP.</u></a>
23.1	<a href="#"><u>Consent of Independent Registered Public Accounting Firm.</u></a>
23.2	<a href="#"><u>Consent of Cooley LLP (included in Exhibit 5.1).</u></a>
24.1	<a href="#"><u>Power of Attorney (included on the signature page).</u></a>
99.1	<a href="#"><u>Mirum Pharmaceuticals, Inc. 2019 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form S-1 (File No. 333-232251), filed with the Commission on July 8, 2019).</u></a>
99.2	<a href="#"><u>Forms of grant notice, stock option agreement and notice of exercise under the Mirum Pharmaceuticals, Inc. 2019 Equity Incentive Plan (incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form S-1 (File No. 333-232251), filed with the Commission on July 8, 2019).</u></a>
99.3	<a href="#"><u>Forms of restricted stock unit grant notice and award agreement under the Mirum Pharmaceuticals, Inc. 2019 Equity Incentive Plan (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1 (File No. 333-232251), filed with the Commission on July 8, 2019).</u></a>
99.4	<a href="#"><u>Mirum Pharmaceuticals, Inc. 2019 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form S-1 (File No. 333-232251), filed with the Commission on July 8, 2019).</u></a>
99.5	<a href="#"><u>Mirum Pharmaceuticals, Inc. 2020 Inducement Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, filed with the Commission on May 7, 2020).</u></a>
99.6	<a href="#"><u>Forms of grant notice, stock option agreement and notice of exercise under the Mirum Pharmaceuticals, Inc. 2020 Inducement Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q, filed with the Commission on May 7, 2020).</u></a>
99.7	<a href="#"><u>Forms of restricted stock unit grant notice and award agreement under the Mirum Pharmaceuticals, Inc. 2020 Inducement Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q, filed with the Commission on May 7, 2020).</u></a>

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## 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 Foster City, State of California, on March 9, 2021.

### MIRUM PHARMACEUTICALS, INC.

By: /s/ Christopher Peetz  
Christopher Peetz  
President and Chief Executive Officer

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Christopher Peetz and Ian Clements, Ph.D., and each one of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in their name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective on filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and all 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 attorneys-in-fact and agents, and each of them, 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 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 his substitute or substitutes, 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 has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Christopher Peetz</u> Christopher Peetz	President, Chief Executive Officer and Director (Principal Executive Officer)	March 9, 2021
<u>/s/ Ian Clements, Ph.D.</u> Ian Clements, Ph.D.	Chief Financial Officer (Principal Financial and Accounting Officer)	March 9, 2021
<u>/s/ Michael Grey</u> Michael Grey	Director	March 9, 2021
<u>/s/ Tiba Aynechi, Ph.D.</u> Tiba Aynechi, Ph.D.	Director	March 9, 2021
<u>/s/ Laura Brege</u> Laura Brege	Director	March 9, 2021
<u>/s/ Laurent Fischer, M.D.</u> Laurent Fischer, M.D.	Director	March 9, 2021

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/s/ Patrick Heron Director  
Patrick Heron

March 9, 2021

/s/ Edward T. Mathers Director  
Edward T. Mathers

March 9, 2021

/s/ Niall O'Donnell, Ph.D. Director  
Niall O'Donnell, Ph.D.

March 9, 2021

March 9, 2021

Mirum Pharmaceuticals, Inc.  
950 Tower Lane, Suite 1050  
Foster City, California 94404

Ladies and Gentlemen:

We have represented Mirum Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), in connection with the filing by the Company of a registration statement on Form S-8 (the “**Registration Statement**”) with the Securities and Exchange Commission, covering the offering of up to 2,551,956 shares (the “**Shares**”) of the Company’s common stock, par value \$0.0001 per share (the “**Common Stock**”), consisting of (i) 1,501,630 shares of Common Stock issuable pursuant to the Company’s 2019 Equity Incentive Plan (the “**2019 Plan**”), (ii) 300,326 shares of Common Stock issuable pursuant to the Company’s 2019 Employee Stock Purchase Plan (the “**ESPP**”) and (iii) 750,000 shares of Common Stock issuable pursuant to the Company’s 2020 Inducement Plan (together with the 2019 Plan and the ESPP, the “**Plans**”).

In connection with this opinion, we have examined and relied upon (i) the Registration Statement and related prospectuses, (ii) the Company’s Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, each as currently in effect, (iii) the Plans and (iv) originals, or copies certified to our satisfaction, of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures; the authenticity of all documents submitted to us as originals; the conformity to originals of all documents submitted to us as copies; the accuracy, completeness and authenticity of certificates of public officials; and the due authorization, execution and delivery of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Plans, the Registration Statement and the related prospectuses, will be validly issued, fully paid and non-assessable (except as to shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

**COOLEY LLP**

By: /s/ Jason L. Kent  
Jason L. Kent

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2019 Equity Incentive Plan, 2019 Employee Stock Purchase Plan and 2020 Inducement Plan of Mirum Pharmaceuticals, Inc. of our report dated March 9, 2021, with respect to the consolidated financial statements of Mirum Pharmaceuticals, 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

Irvine, California  
March 9, 2021