

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

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

Aerpio Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

61-1547850
(I.R.S. Employer
Identification Number)

Aerpio Pharmaceuticals, Inc.
9987 Carver Road, Suite 420
Cincinnati, OH
(Address of Principal Executive Offices)

45242
(Zip Code)

**2017 Stock Option and Incentive Plan
Amended and Restated 2017 Employee Stock Purchase Plan**
(Full Title of the Plan)

Stephen Hoffman
Chief Executive Officer
Aerpio Pharmaceuticals, Inc.
9987 Carver Road, Suite 420
Cincinnati, OH 45242
(Name and Address of Agent for Service)

(513) 985-1920
(Telephone Number, Including Area Code, of Agent For Service)

Copy to:

Kingsley L. Taft, Esq.
Danielle M. Lauzon, Esq.
James Xu, 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 | <input type="checkbox"/> | | Accelerated filer | <input checked="" type="checkbox"/> |
| Non-accelerated filer | <input 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(1) | Proposed Maximum Offering Price Per Share | Proposed Maximum Aggregate Offering Price | Amount of Registration Fee(4) |
|---|----------------------------------|--|--|----------------------------------|
| | | | | |

| | | | | |
|---|-----------|-----------|----------------|----------|
| 2017 Stock Option and Incentive Plan Common Stock, par value \$0.0001 per share | 1,623,520 | \$2.93(2) | \$4,756,914.07 | \$576.54 |
| Amended and Restated 2017 Employee Stock Purchase Plan Common Stock, par value \$0.0001 per share | 350,000 | \$2.49(3) | \$871,675.00 | \$105.65 |
| Total | 1,973,520 | | \$5,628,589.07 | \$682.19 |

- (1) In accordance with Rule 416(a) under the Securities Act of 1933, as amended, this Registration Statement shall be deemed to cover any additional securities that may from time to time be offered or issued 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.
- (2) The price of \$2.93 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 Capital Market on March 5, 2019, 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.
- (3) The price of \$2.49 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 Capital Market on March 5, 2019, 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 2017 Employee Stock Purchase Plan, 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.
- (4) Calculated pursuant to Section 6(b) of the Securities Act of 1933, as amended.

EXPLANATORY NOTE

This Registration Statement on Form S-8 relating to the 2017 Stock Option and Incentive Plan (the “Plan”) and the Amended and Restated 2017 Employee Stock Purchase Plan (the “ESPP”) of Aerpio Pharmaceuticals, Inc. (the “Registrant”) registers additional securities of the same class as other securities for which a registration statement filed on Form S-8 (SEC File No. 333-220057) of the Registrant is effective. Accordingly, the information contained in the Registrant’s Registration Statement on Form S-8 (SEC File No. 333-220057) is hereby incorporated by reference pursuant to General Instruction E, except for “Item 8. Exhibits” with respect to which the Exhibit Index is incorporated herein by reference.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 8. Exhibits.

| <u>Exhibit No.</u> | <u>Description of Exhibit</u> |
|--------------------|---|
| 5.1 | Opinion of Goodwin Procter LLP |
| 23.1 | Consent of Goodwin Procter LLP (included in Exhibit 5.1) |
| 23.2 | Consent of Ernst & Young LLP |
| 24.1 | Power of Attorney (included as part of the signature page of this Registration Statement) |

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 Cincinnati, State of Ohio, on March 7, 2019.

AERPIO PHARMACEUTICALS, INC.

By: /s/ Stephen Hoffman, M.D., Ph.D.

Stephen Hoffman, M.D., Ph.D.

Chief Executive Officer and Director

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Aerpio Pharmaceuticals, Inc. (the “Company”), hereby severally constitute and appoint Stephen Hoffman, Michael Rogers and Joseph Gardner, and each of them singly, our true and lawful attorneys, with full power to them, and to each of them singly, to sign for us and in our names in the capacities indicated below, any and all amendments (including post-effective amendments) to this Registration Statement, and all other documents in connection therewith to be filed with the Securities and Exchange Commission, and generally to do all things in our names and on our behalf in such capacities to enable the Company to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities indicated on March 7, 2019:

| <u>Signature</u> | <u>Title(s)</u> |
|---|--|
| <u>/s/ Stephen Hoffman, M.D., Ph.D.</u> Stephen Hoffman, M.D., Ph.D. | Chief Executive Officer and Director (Principal Executive Officer) |
| <u>/s/ Michael Rogers</u> Michael Rogers | Chief Financial Officer (Principal Financial and Accounting Officer) |
| <u>/s/ Joseph Gardner, Ph.D.</u> Joseph Gardner, Ph.D. | President, Founder and Director |
| <u>/s/ Muneer A. Satter</u> Muneer A. Satter | Chairman of the Board of Directors |
| <u>/s/ Chau Khuong</u> Chau Khuong | Director |
| <u>/s/ Cheryl Cohen</u> Cheryl Cohen | Director |
| <u>/s/ Anupam Dalal, M.D.</u> Anupam Dalal, M.D. | Director |
| <u>/s/ Caley Castelein, M.D.</u> Caley Castelein, M.D. | Director |
| <u>/s/ Pravin Dugel, M.D.</u> Pravin Dugel, M.D. | Director |
| <u>/s/ Steve Prelack</u> Steve Prelack | Director |

March 7, 2019

Aerpio Pharmaceuticals, Inc.
9987 Carver Road, Suite 420
Cincinnati, OH 45242

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

Ladies and Gentlemen:

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-8 (as amended or supplemented, 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 1,973,520 shares (the "Shares") of Common Stock, \$0.0001 par value per share, of Aerpio Pharmaceuticals, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Company's 2017 Stock Option and Incentive Plan (the "Plan") and the Company's Amended and Restated 2017 Employee Stock Purchase Plan (the "ESPP").

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 a sufficient number of authorized but unissued shares of the Company's Common Stock will be available for issuance when the Shares are issued.

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 or the ESPP, 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 Aerpio Pharmaceuticals, Inc. 2017 Stock Option and Incentive Plan, and Aerpio Pharmaceuticals, Inc. Amended and Restated 2017 Employee Stock Purchase Plan, of our report dated March 7, 2019, with respect to the consolidated financial statements of Aerpio Pharmaceuticals, Inc., included in the Annual Report (Form 10-K) for the year ended December 31, 2018, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Cincinnati, Ohio
March 7, 2019