

**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)

**9987 Carver Road
Cincinnati, OH 45242
(513) 985-1920**
(Address of Registrant's Principal Executive Offices)

**AERPIO THERAPEUTICS, INC. 2011 EQUITY INCENTIVE PLAN
AERPIO PHARMACEUTICALS, INC. 2017 STOCK OPTION AND INCENTIVE PLAN
AERPIO PHARMACEUTICALS, INC. 2017 EMPLOYEE STOCK PURCHASE PLAN**
(Full title of the plan)

**Joseph Gardner
President and Chief Executive Officer
Aerpio Pharmaceuticals, Inc.
9987 Carver Road
Cincinnati, OH 45242
(513) 985-1920**
(Name, address and telephone number of agent for service)

Copies to:

**Kingsley L. Taft, Esq.
Danielle Lauzon, Esq.
Goodwin Procter LLP
100 Northern Avenue
Boston, MA 02210
Telephone: (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. (Check one):

Large accelerated filer Accelerated filer
Non-accelerated filer (Do not check if a smaller reporting company) 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.

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	3,672,408(2)	\$5.99(5)	\$21,997,723.92	\$2,549.54
Common stock, \$0.0001 par value per share	898,962(3)	\$5.99(5)	\$5,384,782.38	\$624.10

Common stock, \$0.0001 par value per share	300,000(4)	\$5.99(5)	\$1,797,000.00	\$208.27
Total	4,871,370		\$29,179,506.30	\$3,381.90

- (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 above-named plans 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 3,672,408 shares of common stock available for future issuance under the Registrant's 2017 Stock Option and Incentive Plan (the "2017 Plan").
- (3) Represents shares of common stock subject to awards outstanding under the Registrant's 2011 Equity Incentive Plan (the "2011 Plan") as of the date of this Registration Statement.
- (4) Represents shares of common stock available for future issuance under the Registrant's 2017 Employee Stock Purchase Plan (the "ESPP").
- (5) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(h)(1) of the Securities Act, based on \$5.99 per share, the average of the high and low sale prices of the registrant's common stock on the OTC Markets.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The information called for in Part I of Form S-8 to be contained in the Section 10(a) prospectus is not being filed with or included in this Registration Statement (by incorporation by reference or otherwise) in accordance with the rules and regulations of the Securities and Exchange Commission (the “Commission”). The documents containing the information specified in Part I of Form S-8 will be delivered to the participants in the equity benefit plans covered by this Registration Statement as specified by Rule 428(b)(1) under the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed with the Commission by the Registrant are incorporated by reference into this Registration Statement:

- (a) The Registrant’s Annual Report on Form 10-K filed on March 7, 2017 (filed under the name Zeta Acquisition Corp. II).
- (b) The Registrant’s Quarterly Reports on Form 10-Q for the period ended March 31, 2017 as filed with the Commission on May 15, 2017 and for the period ended June 30, 2017 as filed with the Commission on August 10, 2017.
- (c) The Registrant’s Current Reports on Form 8-K filed on March 17, 2017 (containing items 1.01, 2.01, 3.02, 4.01, 5.01, 5.02, 5.03, 5.06, and 9.01), May 16, 2017 (containing items 2.02 and 9.01), June 29, 2017 (containing items 8.01 and 9.01), July 31, 2017 (containing item 8.01) and August 8, 2017 (containing item 8.01 and 9.01);
- (d) The Registrant’s Registration Statement on Form S-1 (File No. 333-217320) which was declared effective by the Commission on June 23, 2017, and includes audited financial statements for Aerpio Pharmaceuticals, Inc. as of and for the fiscal years ended December 31, 2016 and 2015, as supplemented by Prospectus Supplement No. 1 filed with the Commission on June 29, 2017, Prospectus Supplement No. 2 filed with the Commission on July 31, 2017, Prospectus Supplement No. 3 filed with the Commission on August 8, 2017, and Prospectus Supplement No. 4 filed with the Commission on August 15, 2017.
- (e) The description of the Registrant’s common stock contained in the Registrant’s Registration Statement on Form 10-SB filed on February 1, 2008, including any amendments or reports filed for the purpose of updating such description.

All documents, reports and definitive proxy or information statements filed pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (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, reports and definitive proxy or information statements, or portions thereof, which 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 herein by reference 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 which also is or is deemed to be incorporated by reference herein modifies or supersedes that statement. Any such statement so modified or superseded shall not constitute a part of this Registration Statement, except as so modified or superseded.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

None.

Item 6. Indemnification of Directors and Officers.

Section 145 of the General Corporation Law of the State of Delaware (the “DGCL”) authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys’ fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys’ fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

The Registrant has adopted provisions in the Registrant’s certificate of incorporation and bylaws that limit or eliminate the personal liability of the Registrant’s directors and executive officers to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director or executive officer will not be personally liable to the Registrant or its stockholders for monetary damages or breach of fiduciary duty as a director, except for liability in limited circumstances.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, the Registrant’s bylaws provide that:

- the Registrant will indemnify its directors, officers and, in the discretion of its board of directors, certain employees and agents, to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- the Registrant will advance reasonable expenses, including attorneys’ fees, to its directors and in the discretion of its board of directors, to its officers and certain employees and agents, in connection with legal proceedings relating to their service for or on behalf of the Registrant, subject to limited exceptions.

The Registrant has or intends to enter into indemnification agreements with each of its directors and officers. These agreements provide that the Registrant will indemnify each of its directors, executive officers, certain other officers and, at times, their affiliates, to the fullest extent permitted by the DGCL.

The Registrant also maintains general liability insurance which covers certain liabilities of its directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

See the Exhibit Index on the page immediately preceding the exhibits for a list of exhibits filed as part of this Registration Statement on Form S-8, which Exhibit Index is incorporated herein by reference.

Item 9. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section shall not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new Registration Statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement shall be deemed to be a new Registration Statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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 Cincinnati, Ohio, on August 18, 2017.

Aerpio Pharmaceuticals, Inc.

By: /s/ Joseph H. Gardner
Joseph H. Gardner
President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Joseph Gardner, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his or her name, place and stead, in any and all capacities, to sign the Registration Statement on Form S-8 of Aerpio Pharmaceuticals, 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 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 or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their or his or her 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 on Form S-8 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Joseph H. Gardner, Ph.D.</u> Joseph H. Gardner, Ph.D.	President, Chief Executive Officer and Director (<i>Principal Executive Officer</i>)	August 18, 2017
<u>/s/ James B. Murphy</u> James B. Murphy	Chief Financial Officer (<i>Principal Financial Officer and Principal Accounting Officer</i>)	August 18, 2017
<u>/s/ Muneer A. Satter</u> Muneer A. Satter	Director and Chairman of the Board of Directors	August 18, 2017
<u>/s/ Chau Khuong</u> Chau Khuong	Director	August 18, 2017
<u>/s/ Steven Prelack</u> Steven Prelack	Director	August 18, 2017
<u>/s/ Paul Weiss</u> Paul Weiss	Director	August 18, 2017
<u>/s/ Caley Castelein</u> Caley Castelein	Director	August 18, 2017
<u>/s/ Anupam Dalal</u> Anupam Dalal	Director	August 18, 2017
<u>/s/ Pravin Dugel</u> Pravin Dugel	Director	August 18, 2017

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
3.1	Amended and Restated Certificate of Incorporation of the Registrant(1)
3.2	Amended and Restated Bylaws of the Registrant(2)
4.1	Form of common stock certificate of the Registrant(3)
4.2	2011 Equity Incentive Plan and forms of restricted stock agreement and option agreements thereunder(4)
4.3	2017 Stock Option and Incentive Plan and forms of option agreements thereunder(5)
4.4	2017 Employee Stock Purchase Plan(6)
5.1	Opinion of Goodwin Procter LLP
23.1	Consent of Ernst & Young LLP, independent registered public accounting firm
23.2	Consent of LWBJ, LLP, independent registered public accounting firm
23.3	Consent of Goodwin Procter LLP (included in Exhibit 5.1)
24.1	Power of Attorney (see page II-1 of this Registration Statement on Form S-8)
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(1)	Filed as Exhibit 3.2 to the Registrant's 8-K filed with the Securities and Exchange Commission on March 17, 2017, File No. 000-53057 and incorporated by reference herein.
(2)	Filed as Exhibit 3.3 to the Registrant's 8-K filed with the Securities and Exchange Commission on March 17, 2017, File No. 000-53057 and incorporated by reference herein.
(3)	Filed as Exhibit 4.2 to the Registrant's S-1 filed with the Securities and Exchange Commission on April 14, 2017, File No. 333-217320 and incorporated by reference herein.
(4)	Filed as Exhibit 10.1 to the Registrant's 8-K filed with the Securities and Exchange Commission on March 17, 2017, File No. 000-53057 and incorporated by reference herein.
(5)	Filed as Exhibit 10.2 to the Registrant's 8-K filed with the Securities and Exchange Commission on March 17, 2017, File No. 000-53057 and incorporated by reference herein.
(6)	Filed as Exhibit 10.3 to the Registrant's 8-K filed with the Securities and Exchange Commission on March 17, 2017, File No. 000-53057 and incorporated by reference herein.

August 18, 2017

Aerpio Pharmaceuticals, Inc.
9987 Carver Road
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 (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 4,871,370 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 Aerpio Therapeutics, Inc. 2011 Equity Incentive Plan and the Company's 2017 Stock Option and Incentive Plan and 2017 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 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 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 Aerpio Therapeutics, Inc. 2011 Equity Incentive Plan, Aerpio Pharmaceuticals, Inc. 2017 Stock Option and Incentive Plan, and Aerpio Pharmaceuticals, Inc. 2017 Employee Stock Purchase Plan, of our report dated March 9, 2017 (except for the paragraphs included under the caption "Merger and Offering" described in Notes 1 and 15, as to which the date is May 22, 2017), with respect to the consolidated financial statements of Aerpio Pharmaceuticals, Inc., included in its Registration Statement (Form S-1 No. 333-217320) and related Prospectus, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Cincinnati, Ohio
August 18, 2017

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of Aerpio Pharmaceuticals, Inc. of our report dated March 7, 2017, with respect to our audits of the financial statements of Zeta Acquisition Corp. II for the years ended December 31, 2016 and 2015, which appears in the Zeta Acquisition Corp. II Form 10-K filed on March 7, 2017.

/s/LWBJ, LLP
West Des Moines, Iowa
August 18, 2017