

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

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

ARROWHEAD PHARMACEUTICALS, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

46-0408024
(I.R.S. Employer
Identification No.)

**225 South Lake Avenue, Suite 1050
Pasadena, CA 91101**
(Address of Principal Executive Offices)

**2013 INCENTIVE PLAN*
STAND ALONE INDUCEMENT STOCK OPTIONS*
STAND ALONE INDUCEMENT RESTRICTED STOCK UNITS***
(Full Title of the Plan)

***See Explanatory Note on Following Page**

**Christopher Anzalone
President and Chief Executive Officer
225 South Lake Avenue, Suite 1050
Pasadena, CA 91101
Telephone: (626) 304-3400**
(Name, address, and telephone number, including area code, of agent for service)

Copy to:
**Ryan A. Murr
Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, California 94105
Telephone: (415) 393-8373
Facsimile: (415) 374-8430**

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 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, \$0.001 par value per share	47,000 (2)	\$1.56	\$73,320 (9)	\$9.13
Common Stock, \$0.001 par value per share	26,000 (3)	\$3.92	\$101,920 (9)	\$12.69
Common Stock, \$0.001 par value per share	2,500 (4)	\$7.23	\$18,075 (10)	\$2.25
Common Stock, \$0.001 par value per share	89,000 (5)	\$3.51	\$312,390 (9)	\$38.89
Common Stock, \$0.001 par value per share	78,000 (6)	\$7.53	\$587,340 (9)	\$73.12
Common Stock, \$0.001 par value per share	25,000 (7)	\$7.23	\$180,750 (10)	\$22.50
Common Stock, \$0.001 par value per share	2,986,619 (8)	\$7.23	\$21,593,255 (10)	\$2,688.36
Total	3,254,119		\$22,867,050	\$2,846.94

- (1) Pursuant to Rule 416 of the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers any additional shares of common stock, par value \$0.001 per share (the "Common Stock"), which become issuable by reason of any stock split, stock dividend or 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 shares of Common Stock potentially issuable upon the exercise of options granted to eleven new employees on June 5, 2017 as an inducement award made pursuant to NASDAQ Listing Rule 5635(c)(4) (the "Inducement Exception").
- (3) Represents shares of Common Stock potentially issuable upon the exercise of options granted to eight new employees on October 17, 2017 as inducement awards made pursuant to the Inducement Exception.
- (4) Represents shares of Common Stock potentially issuable upon the vesting of a restricted stock unit award granted to a new employee on December 11, 2017 as an inducement award made pursuant to the Inducement Exception.
- (5) Represents shares of Common Stock potentially issuable upon the exercise of options granted to eight new employees on December 11, 2017 as inducement awards made pursuant to the Inducement Exception.
- (6) Represents shares of Common Stock potentially issuable upon the exercise of options granted to five new employees on March 16, 2018 as inducement awards made pursuant to the Inducement Exception.
- (7) Represents shares of Common Stock potentially issuable upon the exercise of options approved for one new employee on March 16, 2018 as inducement awards made pursuant to the Inducement Exception. This employee's employment will commence on April 3, 2018.
- (8) Represents shares of Common Stock added to the Company's 2013 Incentive Plan (the "2013 Plan") pursuant to an "evergreen" provision in the 2013 Plan.
- (9) Based upon the price at which the stock options may be exercised, pursuant to Rule 457(h) under the Securities Act.
- (10) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457 of the Securities Act, and based on the average of the high and low sale prices of the Registrant's common stock, as reported on the Nasdaq Global Select Market, on March 20, 2018.

Explanatory Note

This Registration Statement on Form S-8 is being filed by Arrowhead Pharmaceuticals, Inc. (the “Registrant”) to register a total of 267,500 shares of Common Stock issuable under previously announced stand-alone restricted stock unit and stock option awards granted on June 5, 2017, October 17, 2017, December 11, 2017, and March 16, 2018 to new employees as inducement awards in connection with the commencement of employment, as well as an additional 2,986,619 shares of Common Stock issuable under the Company’s 2013 Incentive Plan (the “Plan”) pursuant to the provisions of the Plan.

Part I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Information required by Part I to be contained in the Section 10(a) prospectus is omitted from this Registration Statement in accordance with Rule 428 under the Securities Act of 1933, as amended, and the Explanatory Note to Part I of Form S-8.

Part II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The SEC allows us to “incorporate by reference” the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this registration statement, and later information filed with the SEC will update and supersede this information. We hereby incorporate by reference into this registration statement the following documents previously filed with the SEC:

- The Company’s annual report on Form 10-K for the fiscal year ended September 30, 2017, filed on December 12, 2017;
- The Company’s definitive proxy statement on Schedule 14A, filed on January 25, 2018;
- The Company’s Quarterly Report on Form 10-Q for the quarter ended December 31, 2017, filed on February 9, 2018;
- The Company’s Current Reports on Form 8-K, filed on December 27, 2017, January 22, 2018, and March 19, 2018; and
- The description of the Company’s Common Stock contained in its registration statement on Form 8-A/A (Registration No. 000-21898), filed on November 1, 2010, including any amendments or reports filed for the purpose of updating such description.

All documents that the registrant subsequently files pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended, prior to the filing of a post-effective amendment to the registration statement which indicates that all of the shares of common stock offered have been sold or which deregisters all of such shares then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of the filing of such documents; except as to any portion of any future annual or quarterly report to stockholders or document or current report furnished under current Items 2.02 or 7.01 of Form 8-K that is not deemed filed under such provisions. For the purposes of 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 to the extent that a statement contained herein or in any other subsequently filed document which 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 be deemed, except as so modified or superseded, to constitute a part of this registration statement.

Under no circumstances will any information filed under items 2.02 or 7.01 of Form 8-K be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

None.

Item 6. Indemnification of Directors and Officers.

The Company's Certificate of Incorporation, as amended, provides for the elimination of personal monetary liability of directors to the fullest extent permissible under Delaware law. Delaware law does not permit the elimination or limitation of director monetary liability for: (i) breaches of the director's duty of loyalty to the corporation or its stockholders; (ii) acts or omissions not in good faith or involving intentional misconduct or knowing violations of law; (iii) the payment of unlawful dividends or unlawful stock repurchases or redemptions or (iv) transactions in which the director received an improper personal benefit.

Section 145 of the Delaware General Corporation Law permits a Delaware corporation to indemnify, on certain terms and conditions, any person who was or is a party or is threatened to be made a party to any threatened pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action. The Certificate of Incorporation and Bylaws of the Company require the Company to indemnify the Company's directors and officers to the fullest extent permitted under Delaware law.

We have entered into indemnification agreements with each of our directors and our executive officers. These agreements provide that we will indemnify each of our directors and executive officers to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees, judgments, fines and settlement amounts, to each indemnified director and executive officer in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as an officer or director brought on behalf of the Company or in furtherance of our rights.

We also maintain general liability insurance which covers certain liabilities of our 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

Exhibit No.	Description
4.1	Form of Common Stock Certificate of Arrowhead Pharmaceuticals, Inc. (1)
4.2	Amended and Restated Certificate of Incorporation of Arrowhead Research Corporation (effecting, among other things a change in the corporation's name from "Arrowhead Research Corporation" to "Arrowhead Pharmaceuticals, Inc."), filed with the Secretary of the State of Delaware on April 5, 2016 (1)
4.3	Amended and Restated Bylaws of Arrowhead Pharmaceuticals, Inc. (1)
5.1	Opinion of Gibson, Dunn & Crutcher LLP*
23.1	Consent of Rose, Snyder & Jacobs LLP*
23.2	Consent of Gibson, Dunn & Crutcher LLP (filed as a part of Exhibit 5.1)
24.1	Power of attorney (set forth on signature page)
99.1	Arrowhead Pharmaceuticals, Inc. 2013 Incentive Plan (2)
99.2	Form of Restricted Stock Unit Inducement Award (3)
99.3	Form of Stock Option Grant Inducement Award (3)

* Filed herewith.

(1) Filed as an exhibit to the registrant's Current Report on Form 8-K, filed on April 6, 2016 and incorporated herein by reference.

(2) Filed as Annex A of the registrant's Proxy Statement filed on December 20, 2013 and incorporated herein by reference.

(3) Filed as an exhibit to the registrant's Registration Statement on Form S-8, filed on March 13, 2015 and 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 (15 U.S.C. 78m or 78o(d)) 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.

March 21, 2018

Arrowhead Pharmaceuticals, Inc.
225 South Lake Avenue, Suite 1050
Pasadena, CA 91101

Re: *Arrowhead Pharmaceuticals, Inc.*
Registration Statement on Form S-8

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 (the "Registration Statement"), of Arrowhead Pharmaceuticals, Inc., a Delaware corporation (the "Company") filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), in connection with the offering by the Company of up to: (a) 2,986,619 shares (the "Stock Plan Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), issuable to eligible individuals under the Company's 2013 Incentive Plan (the "Stock Plan"), (b) 265,000 shares (the "Option Shares") of Common Stock issuable pursuant to the Company's Form of Stock Option Grant Inducement Award (the "Option Agreement"), and (c) 2,500 shares (the "RSU Shares" and together with the Stock Plan Shares and the Options Shares, the "Shares") of Common Stock issuable pursuant to the Company's Form of Restricted Stock Unit Inducement Award (the "RSU Agreement" and together with the Stock Plan and the Option Agreement, the "Governing Documents").

In arriving at the opinions expressed below, we have examined the Governing Documents and the originals, or photostatic or certified copies, of such records of the Company and certificates of officers of the Company and of public officials and such other documents as we have deemed relevant and necessary as the basis for the opinions set forth below. We have also made such other investigations as we have deemed relevant and necessary or appropriate in connection with the opinion hereinafter set forth. In our examination, we have assumed the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies. We have also assumed that there are no agreements or understandings between or among the Company and any participants in the Governing Documents that would expand, modify or otherwise affect the terms of the Governing Documents or the respective rights or obligations of the participants thereunder. Finally, we have assumed the accuracy of all other information provided to us by the Company during the course of our investigations, on which we have relied in issuing the opinion expressed below.

Beijing • Brussels • Century City • Dallas • Denver • Dubai • Hong Kong • London • Los Angeles • Munich
New York • Orange County • Palo Alto • Paris • San Francisco • São Paulo • Singapore • Washington, D.C.

Arrowhead Pharmaceuticals, Inc.

March 21, 2018

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Based upon the foregoing examination and in reliance thereon, and subject to the assumptions stated and in reliance on statements of fact contained in the documents that we have examined, we are of the opinion that the Shares issuable under the Governing Documents, when issued and sold in accordance with the terms of the respective Governing Documents and against payment therefor, and when the Registration Statement has become effective under the Securities Act, will be validly issued, fully paid and non-assessable.

We render no opinion herein as to matters involving the laws of any jurisdiction other than the Delaware General Corporation Law (the "DGCL"). We are not admitted to practice in the State of Delaware; however, we are generally familiar with the DGCL as currently in effect and have made such inquiries as we consider necessary to render the opinions above. This opinion is limited to the effect of the current state of the law of the DGCL and the facts as they currently exist. We assume no obligation to revise or supplement this opinion in the event of future changes in such law or the interpretations thereof or such facts.

We consent to the filing of this opinion as an exhibit to the Registration Statement. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission.

Very truly yours,

/s/ GIBSON DUNN & CRUTCHER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference, in this Registration Statement on Form S-8 of our report dated December 12, 2017, with respect to the consolidated financial statements of Arrowhead Pharmaceuticals, Inc. and Subsidiaries appearing in the Company's Annual Report on Form 10-K for the year ended September 30, 2017.

Rose, Snyder & Jacobs LLP

Encino, California

March 21, 2018