SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

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

ARROWHEAD RESEARCH CORPORATION

(Exact Name of Registrant as Specified in its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)

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

46-0408024

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

2013 INCENTIVE PLAN STAND ALONE INDUCEMENT OPTIONS* (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 Ropes & Gray, LLP Three Embarcadero Center San Francisco, California 94111 Telephone: (415) 315-6300 Facsimile: (415) 315-6026

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Non-accelerated filer

 \Box (Do not check if a smaller reporting company)

Accelerated filer

Smaller reporting company \square

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	4,000,000(3)	\$23.76 (2)	\$95,040,000	
Common Stock, \$0.001 par value per share	50,000(4)	\$4.65	\$232,500	
Common Stock, \$0.001 par value per share	105,000(5)	\$7.98	\$837,900	
Total Amount			\$96,110,400	\$12,379.02

(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 which become issuable under the 2013 Incentive Plan or the stand alone inducement options 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) 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 13, 2014.
- (3) Represents shares of Common Stock reserved for issuance pursuant to the 2013 Incentive Plan (the "2013 Incentive Plan").
- (4) Represents shares of Common Stock potentially issuable upon the exercise of inducement options granted on September 16, 2013.
- (5) Represents shares of Common Stock potentially issuable upon the exercise of inducement options granted on October 23, 2013.

Explanatory Note

This Registration Statement on Form S-8 is being filed by the registrant to register (i) 4,000,000 shares of common stock, par value \$0.001 per share, issuable under the registrant's newly adopted 2013 Incentive Plan (the "2013 Plan"), and (ii) 155,000 shares of common stock, par value \$0.001 per share, issuable under previously announced stand-alone inducement stock option awards granted in September and October 2013.

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 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, 2013, filed on December 18, 2013;
- The Company's Quarterly Reports on Form 10-Q for the quarter ended December 31, 2013, filed on February 4, 2014;
- The Company's Current Reports on Form 8-K filed on October 10, 2013, February 7, 2014, February 12, 2014 and February 21, 2014; 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 current 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 (1)
5.1	Opinion of Ropes & Gray LLP*
23.1	Consent of Rose, Snyder & Jacobs LLP*
23.2	Consent of Ropes & Gray LLP (filed as a part of Exhibit 5.1)
24.1	Power of attorney (set forth on signature page)
99.1	2013 Equity Incentive Plan (1)
99.2	Form of Inducement Grant (2)

* Filed herewith.

- (1) Filed as Annex A of the registrant's Proxy Statement filed on December 20, 2013 and incorporated herein by reference.
- (2) Filed as an exhibit to the registrant's Registration Statement on Form S-8, filed on April 12, 2012 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.

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 Pasadena, California, on March 14, 2014.

Arrowhead Research Corporation

By: /s/ Christopher Anzalone Christopher Anzalone

President and Chief Executive Officer

POWER OF ATTORNEY

Each of the undersigned hereby constitutes and appoints each of Christopher Anzalone and Kenneth A. Myszkowski, his or her attorney-in-fact, with power of substitution, in his or her name and in the capacity indicated below, to sign any and all further amendments (including post-effective amendments) to this registration statement on Form S-8 and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorney-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

Signature	Title	Date
/s/ Christopher Anzalone Christopher Anzalone	President, Chief Executive Officer and Director (Principal Executive Officer)	March 14, 2014
/s/ Kenneth A. Myszkowski Kenneth A. Myszkowski	Chief Financial Officer (Principal Financial and Accounting Officer)	March 14, 2014
/s/ Mauro Ferrari Mauro Ferrari	Director	March 14, 2014
/s/ Edward W. Frykman Edward W. Frykman	Director	March 14, 2014
/s/ Douglass Given Douglass Given	Director	March 14, 2014
/s/ Charles P. McKenney Charles P. McKenney	Director	March 14, 2014
/s/ Michael Perry Michael Perry	Director	March 14, 2014

EXHIBIT INDEX

Exhibit No.	Description
4.1	Form of Common Stock Certificate (1)
5.1	Opinion of Ropes & Gray LLP*
23.1	Consent of Rose, Snyder & Jacobs LLP*
23.2	Consent of Ropes & Gray LLP (filed as a part of Exhibit 5.1)
24.1	Power of attorney (set forth on signature page)
99.1	2013 Equity Incentive Plan (1)
99.2	Form of Inducement Grant (2)

* Filed herewith

(1)

Filed as Annex A of the registrant's Proxy Statement filed on December 20, 2013 and incorporated herein by reference. Filed as an exhibit to the registrant's Registration Statement on Form S-8, filed on April 12, 2012 and incorporated herein by reference. (2)



ROPES & GRAY LLP THREE EMBARCADERO CENTER SAN FRANCISCO, CA 94111-4006 WWW.ROPESGRAY.COM

March 14, 2014

Arrowhead Research Corporation 225 South Lake Avenue, Suite 1050 Pasadena, CA 91101

Ladies and Gentlemen:

This opinion letter is furnished to you in connection with the registration statement on Form S-8 (the "<u>Registration Statement</u>"), filed by Arrowhead Research Corporation, a Delaware corporation (the "<u>Company</u>"), on the date hereof, with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "<u>Securities Act</u>"), for the registration of 4,155,000 shares of Common Stock, \$0.001 par value, of the Company (the "<u>Shares</u>"). The Shares are issuable under the Company's 2013 Incentive Plan (the "<u>Plan</u>") and based on stand-alone inducement stock option awards (the "<u>Inducement Awards</u>").

We are familiar with the actions taken by the Company in connection with the adoption of the Plan and the Inducement Awards. We have examined such certificates, documents and records and have made such investigation of fact and such examination of law as we have deemed appropriate in order to enable us to render the opinions set forth herein. In conducting such investigation, we have relied, without independent verification, upon certificates of officers of the Company, public officials and other appropriate persons.

The opinions expressed below are limited to the Delaware General Corporation Law.

For purposes of the opinion expressed 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 upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized and, when the Shares have been issued and sold in accordance with the terms of the Plan or the respective Inducement Awards, as applicable, the Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement. In giving such consent, we do not thereby 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/ Ropes & Gray LLP

Ropes & Gray 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 16, 2013, with respect to the consolidated financial statements of Arrowhead Research Corporation and Subsidiaries appearing in the Company's Annual Report on Form 10-K for the year ended September 30, 2013.

/s/ Rose, Snyder & Jacobs LLP

Rose, Snyder & Jacobs LLP

Encino, California March 12, 2014