

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | CHANGE OF NAME |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| ARROWHEAD RESEARCH CORPORATION | 04/05/2016 |
| RECEIVING PARTY DATA | |
| Name: | ARROWHEAD PHARMACEUTICALS, INC. |
| Street Address: | 225 SOUTH LAKE AVENUE |
| Internal Address: | SUITE 1050 |
| City: | PASADENA |
| State/Country: | CALIFORNIA |
| Postal Code: | 91101 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 15906054 |
| CORRESPONDENCE DATA | |
| Fax Number: | |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> | |
| Phone: | 608-316-3984 |
| Email: | patents@arrowheadpharma.com |
| Correspondent Name: | ROBERT MICHAEL TEIGEN |
| Address Line 1: | 502 S. ROSA ROAD |
| Address Line 4: | MADISON, WISCONSIN 53719 |
| ATTORNEY DOCKET NUMBER: | 27028-US4 |
| NAME OF SUBMITTER: | ROBERT MICHAEL TEIGEN |
| SIGNATURE: | /Robert Michael Teigen/ |
| DATE SIGNED: | 03/19/2018 |
| Total Attachments: 16 | |
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Delaware

The First State

Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE RESTATED CERTIFICATE OF "ARROWHEAD RESEARCH CORPORATION", FILED IN THIS OFFICE ON THE FIFTH DAY OF APRIL, A.D. 2016, AT 4:33 O`CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID RESTATED CERTIFICATE IS THE SIXTH DAY OF APRIL, A.D. 2016 AT 4:01 O`CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE KENT COUNTY RECORDER OF DEEDS.




Jeffrey W. Bullock, Secretary of State

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SR# 20162091608

Authentication: 202098208
Date: 04-05-16

You may verify this certificate online at corp.delaware.gov/authver.shtml

PATENT
REEL: 045639 FRAME: 0916

**AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION**

OF

**ARROWHEAD RESEARCH CORPORATION
(a Delaware corporation)**

Arrowhead Research Corporation, a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), does hereby certify as follows:

(a) The name of the Corporation is Arrowhead Research Corporation. The Corporation's original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on February 13, 2001 under the Corporation's former name, InterActive Group, Inc.

(b) This Amended and Restated Certificate of Incorporation has been duly authorized and adopted by the Board of Directors of the Corporation in accordance with the provisions of Sections 242 and 245 of the General Corporation Law of the State of Delaware.

(c) Effective as of 4:01 p.m. (Eastern Time) on April 6, 2016, the Corporation's Certificate of Incorporation shall be amended and restated in its entirety to read as follows:

FIRST: The name of the corporation is Arrowhead Pharmaceuticals, Inc. (the "Corporation").

SECOND: The address of the Corporation's registered office in the State of Delaware is 2140 South Dupont Hwy, Camden, Kent County, Delaware 19934. The name of its registered agent at such address is Paracorp Incorporated.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware (the "DGCL").

FOURTH: The total number of shares which the Corporation shall have authority to issue is 150,000,000, of which 145,000,000 shares shall be common stock, \$.001 par value ("Common Stock"), and 5,000,000 shares shall be preferred stock, \$.001 par value ("Preferred Stock"). The Board of Directors (the "Board") is authorized, subject to the limitations prescribed by law and the provisions of this Article FOURTH, to provide for the issuance of the Preferred Stock in series, and by filing a certificate pursuant to the applicable laws of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each such series and the qualifications, limitations or restrictions thereof. The authority of the Board with respect to each such series shall include, but not be limited to, the determination of the following: (a) The number of shares constituting that series and the distinctive designation of that series; (b) The dividend rate, if any, on the shares of that series, whether dividends shall be cumulative, and, if so, from which date or dates, and the relative priority, if any, of payment of dividends on shares of that series; (c) Whether that series shall have voting rights, in addition to the voting rights expressly required by law, and, if so, the terms of such voting rights; (d) Whether that series shall have conversion privileges, and, if so, the terms and conditions of such conversion, including provisions for adjustment of the conversion rate in such events as the Board shall determine; (e) Whether or not the shares of that series shall be redeemable, and, if so, the terms and conditions of such redemption, including the date or dates upon or after which they shall be redeemable, and the amount per share payable in the case of redemption, which amount may vary under different conditions and at different redemption dates; (f) Whether that series shall have a sinking fund for the redemption or purchase of shares of that series, and, if so, the terms and amount of such sinking fund; (g) The rights of the shares of that series in the event of a voluntary or involuntary liquidation, dissolution or winding up of the Corporation, and the relative rights of priority, if any, of payment of shares of that series; and (h) Any other relative rights, preferences and limitations of that series.

Series C Convertible Preferred Stock. Pursuant to the authority conferred by this Article FOURTH upon the Board, the Board created a series of 46,000 shares of Preferred Stock designated as Series C Convertible Preferred Stock by filing a certificate of designations with the Secretary of State of the State of Delaware on October 10, 2013. The voting powers, designations, preferences and relative, participating, optional or other special rights, and the qualifications, limitations and restrictions thereof, of the Series C Convertible Preferred Stock of the Corporation are as set forth in Annex A hereto and are incorporated herein by reference.

FIFTH: The Board is expressly authorized to make, alter or repeal the Bylaws of the Corporation, but the stockholders may make additional Bylaws and may alter or repeal any bylaw whether adopted by them or otherwise.

SIXTH: Elections of directors need not be by written ballot except to the extent provided in the Bylaws of the Corporation.

SEVENTH: A director of the Corporation shall not be liable to the Corporation or any of its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the DGCL as the same exists or may hereafter be amended. Any repeal or modification of the foregoing paragraph by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation in respect of any act or omission occurring prior to the time of such repeal or modification.

EIGHTH: The Corporation reserves the right at any time and from time to time to amend, alter, change or repeal any provision contained in this Certificate of Incorporation in the manner now or hereafter prescribed by law, and all rights, preferences and privileges of whatsoever nature conferred upon stockholders, directors or any other persons whomsoever by and pursuant to this Certificate of Incorporation in its present form or as hereafter amended are granted subject to the right reserved in this Article EIGHTH.

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IN WITNESS WHEREOF, Arrowhead Research Corporation has caused this Amended and Restated Certificate of Incorporation to be signed by the undersigned duly authorized officer on this 5th day of April, 2016.

ARROWHEAD RESEARCH CORPORATION

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

ANNEX A

ARROWHEAD RESEARCH CORPORATION
CERTIFICATE OF DESIGNATION OF PREFERENCES,
RIGHTS AND LIMITATIONS
OF
SERIES C CONVERTIBLE PREFERRED STOCK

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

Section 1. Definitions. For the purposes of this Annex A, the following terms shall have the following meanings:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

“Beneficial Ownership Limitation” shall have the meaning set forth in Section 6(d).

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Buy-In” shall have the meaning set forth in Section 6(c)(iv).

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the Corporation’s common stock, par value \$0.001 per share, and stock of any other class of securities into which such securities may be reclassified or changed after October 10, 2013.

“Common Stock Equivalents” means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Conversion Amount” means the sum of the Stated Value at issue.

“Conversion Date” shall have the meaning set forth in Section 6(a).

“Conversion Price” shall have the meaning set forth in Section 6(b).

“Conversion Shares” means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series C Preferred Stock in accordance with the terms hereof.

“Distribution” shall have the meaning set forth in Section 7(c).

“Effective Date” means the date that the Resale Registration Statement filed by the Corporation pursuant to the Purchase Agreement first becomes effective under the Securities Act.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Fundamental Transaction” shall have the meaning set forth in Section 7(d).

“Holder” shall have the meaning given such term in Section 2.

“Junior Securities” means the Common Stock and all other Common Stock Equivalents of the Corporation other than those securities which are explicitly senior or pari passu to the Series C Preferred Stock in dividend rights or liquidation preference.

“Liquidation” shall have the meaning set forth in Section 5.

“New York Courts” shall have the meaning set forth in Section 8(d).

“Notice of Conversion” shall have the meaning set forth in Section 6(a).

“Original Issue Date” means the date of the first issuance of any shares of the Series C Preferred Stock regardless of the number of transfers of any particular shares of Series C Preferred Stock and regardless of the number of certificates which may be issued to evidence such Series C Preferred Stock.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Purchase Agreement” means the Securities Purchase Agreement, dated October 8, 2013, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

“Reference Property” shall have the meaning set forth in Section 7(d).

“Reference Property Units” shall have the meaning set forth in Section 7(d).

“Resale Registration Statement” means a registration statement that registers the resale of the Conversion Shares of the Holders, who shall be named as “selling stockholders” therein and meets the requirements of the Purchase Agreement.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Series C Preferred Stock” shall have the meaning set forth in Section 2.

“Share Delivery Date” shall have the meaning set forth in Section 6(c)(i).

“Stated Value” shall have the meaning set forth in Section 2.

“Subsidiary” means any Subsidiary of the Corporation as defined in the Purchase Agreement and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

“Successor Entity” shall have the meaning set forth in Section 7(d).

“Trading Day” means a day on which the principal Trading Market is open for business.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board (or any successors to any of the foregoing).

“Transaction Documents” means the Purchase Agreement, this Certificate of Designation and all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated hereunder.

“Transfer Agent” means Computershare Trust Company, N.A., the current transfer agent for the Common Stock, and any successor transfer agent of the Corporation.

Section 2. Designation, Amount and Par Value. The series of preferred stock shall be designated as the Corporation’s Series C Convertible Preferred Stock (the “Series C Preferred Stock”) and the number of shares so designated shall be 46,000 (which shall not be subject to increase without the written consent of a majority of the holders of the Series C Preferred Stock (each, a “Holder” and collectively, the “Holders”). Each share of Series C Preferred Stock shall have a par value of \$0.001 per share and a stated value equal to \$1,000 (the “Stated Value”).

Section 3. Dividends; Restrictions on Repurchases and Redemptions of Junior Securities: No Redemption.

a) Dividends. Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Series C Preferred Stock equal (on an as-if-converted-to-Common-Stock basis, without regard to any limitation in Section 6(d) on the conversion of the Series C Preferred Stock) to and in the same form, and in the same manner, as dividends (other than dividends in the form of Common Stock) actually paid on shares of the Common Stock when, as and if such dividends (other than dividends in the form of Common Stock) are paid on shares of the Common Stock. Other than as set forth in the previous sentence, no other dividends shall be paid on shares of Series C Preferred Stock; and the Corporation shall pay no dividends (other than dividends in the form of Common Stock) on shares of the Common Stock unless it simultaneously complies with the previous sentence.

b) Repurchases and Redemptions of Junior Securities. So long as any Series C Preferred Stock shall remain outstanding, the Corporation shall not redeem, purchase or otherwise acquire directly or indirectly more than a de minimis amount of any Junior Securities other than as to repurchases of Common Stock or Common Stock Equivalents from departing, officers, directors or employees of the Company or any Subsidiary, and provided that, while any of the Series C Preferred Stock remains outstanding, such repurchases shall not exceed an aggregate of \$100,000 in any fiscal year.

c) No Redemption. The Series C Preferred Stock shall not be redeemable at the election of the Corporation.

Section 4. Voting Rights. In addition to the voting rights provided by applicable law, the Series C Preferred Stock shall have the right to vote on any matter on which the Common Stock is eligible to vote on an as-if-converted-to-Common-Stock basis; provided that each Holder shall only have the right to vote such shares of Series C Preferred Stock as are eligible for conversion without exceeding the Beneficial Ownership Limitation.

Section 5. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a “Liquidation”), after the satisfaction in full of the debts of the Corporation and the payment of any liquidation preference owed to the holders of shares of capital stock of the Corporation ranking prior to the Series C Preferred Stock upon liquidation, the Holders of the Series C Preferred Stock shall participate pari passu with the holders of the Common Stock (on an as-if-converted-to-

Common-Stock basis without regard to any limitation in Section 6(d) on the conversion of the Series C Preferred Stock) in the net assets of the Corporation. The Corporation shall mail written notice of any such Liquidation, not less than 45 days prior to the payment date stated therein, to each Holder.

Section 6. Conversion.

a) Conversions at Option of Holder. Each share of Series C Preferred Stock shall be convertible, at any time and from time to time from and after the Original Issue Date at the option of the Holder thereof, into that number of shares of Common Stock (subject to the limitations set forth in Section 6(d)) determined by dividing the Stated Value of such share of Series C Preferred Stock by the Conversion Price in effect on the Conversion Date for such conversion, subject to Section 6(c)(vi). Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as Exhibit A (a "Notice of Conversion"). Each Notice of Conversion shall specify the number of shares of Series C Preferred Stock to be converted, the number of shares of Series C Preferred Stock owned prior to the conversion at issue, the number of shares of Series C Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers (as provided in Section 8(a)) such Notice of Conversion to the Corporation (such date, the "Conversion Date"). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion to the Corporation is deemed delivered hereunder. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. To effect conversions of shares of Series C Preferred Stock, a Holder shall not be required to surrender the certificate(s) representing the shares of Series C Preferred Stock to the Corporation unless all of the shares of Series C Preferred Stock represented thereby are so converted, in which case such Holder shall deliver the certificate representing such shares of Series C Preferred Stock promptly following the Conversion Date at issue. Shares of Series C Preferred Stock converted into Common Stock in accordance with the terms hereof or repurchased by the Corporation shall be canceled and shall not be reissued.

b) Conversion Price. The conversion price for the Series C Preferred Stock shall initially equal \$5.86, subject to adjustment as provided herein (the "Conversion Price").

c) Mechanics of Conversion

i. Delivery of Certificate Upon Conversion. Not later than three (3) Trading Days after each Conversion Date (the "Share Delivery Date"), the Corporation shall deliver, or cause to be delivered, to the converting Holder a certificate or certificates representing the applicable Conversion Shares which, on or after the earlier of (i) the one-year anniversary of the Original Issue Date or (ii) the Effective Date, shall be free of restrictive legends and trading restrictions (other than those which may then be required by the Purchase Agreement) representing the number of Conversion Shares being acquired upon the conversion of the Series C Preferred Stock. Subject to clauses (ii) and (iv)(B) below, on the Conversion Date with respect to any Conversion Shares, the Person to which such Conversion Shares are to be issued shall be deemed to be the holder of record of such Conversion Shares; provided, however, that, subject to clauses (ii) and (iv)(B) below, if such Conversion Date occurs after a record date for the payment of dividends on the Series C Preferred Stock pursuant to Section 3(a) and prior to the related dividend payment date, then such Person shall be deemed to have been the holder of record of such Conversion Shares on such record date (and, for the avoidance of doubt, will be entitled to receive such dividends in respect of such Conversion Shares on such dividend payment date). On or after the earlier of (i) the one-year anniversary of the Original Issue Date or (ii) the Effective Date, the Corporation shall use its best efforts to deliver any certificate or certificates required to be delivered by the Corporation under this Section 6 electronically

through the Depository Trust Company or another established clearing corporation performing similar functions.

ii. Failure to Deliver Certificates. If, in the case of any Notice of Conversion, such certificate or certificates are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such certificate or certificates, to rescind such Conversion, in which event the Corporation shall promptly return to the Holder any original Series C Preferred Stock certificate delivered to the Corporation.

iii. Obligation Absolute. The Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Series C Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by such Holder or any other Person of any obligation to the Corporation or any violation or alleged violation of law by such Holder or any other person, and irrespective of any other circumstance which might otherwise limit such obligation of the Corporation to such Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of the Stated Value of its Series C Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or anyone associated or affiliated with such Holder has been engaged in any violation of law or agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Series C Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of Series C Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment. In the absence of such injunction, the Corporation shall issue Conversion Shares and, if applicable, cash, upon a properly noticed conversion. Nothing herein shall limit a Holder's right to pursue all remedies available to it hereunder, at law or in equity, including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

iv. Compensation for Buy-In on Failure to Timely Deliver Certificates Upon Conversion. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable certificate or certificates by the Share Delivery Date pursuant to Section 6(c)(i), and if on or after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (or, in the case of a purchase by such brokerage firm, the cost charged by such brokerage firm to such Holder with respect thereto) (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue and which was the subject of such sale multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was

executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Series C Preferred Stock equal to the number of shares of Series C Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(c)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of shares of Series C Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder \$1,000. The Holder shall provide the Corporation written notice indicating the amounts payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver certificates representing shares of Common Stock upon conversion of the shares of Series C Preferred Stock as required pursuant to the terms hereof.

v. Reservation of Shares Issuable Upon Conversion. The Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Series C Preferred Stock, as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other Holders of the Series C Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth herein) be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then-outstanding shares of Series C Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable and, if the Resale Registration Statement is then effective under the Securities Act, shall be registered for public resale in accordance with such Resale Registration Statement (subject to such Holder's compliance with its related obligations under the Purchase Agreement).

vi. Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon the conversion of the Series C Preferred Stock. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such conversion, the Corporation shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price in effect on the relevant Conversion Date or round up to the next whole share.

vii. Transfer Taxes and Expenses. The issuance of certificates for shares of the Common Stock upon conversion of the Series C Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such certificates, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such certificate upon conversion in a name other than that of the Holders of such Series C Preferred Stock and the Corporation shall not be required to issue or deliver such certificates unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion.

d) Beneficial Ownership Limitation. Notwithstanding anything herein to the contrary, the Corporation shall not effect any conversion of the Series C Preferred Stock, and a Holder shall not have the right to convert any portion of the Series C Preferred Stock, in each case to the extent that, after giving effect to such conversion, such Holder would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of this Section 6(d), beneficial ownership of a Holder shall be calculated in accordance with Section 16(a) and (b) of the Exchange Act and the rules and regulations promulgated thereunder for purposes of determining whether such Holder is subject to the reporting and liability provisions of Section 16(a) and 16(b) of the Exchange Act. For purposes of complying with this Section 6(d), the Corporation shall be entitled to conclusively rely on the information set forth in any Holder's Notice of Conversion, and each Holder delivering a Notice of Conversion shall be deemed to represent to the Corporation that such Notice of Conversion does not violate the restrictions set forth in this paragraph, and the Corporation shall have no obligation to verify or confirm the accuracy of such representation. Upon the written or oral request of a Holder, the Corporation shall, within two Trading Days, confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. The "Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of Series C Preferred Stock held by the applicable Holder. By written notice to the Company, a Purchaser may from time to time increase or decrease the Beneficial Ownership Limitation applicable solely to such Purchaser to any other percentage not in excess of 19.99% specified in such notice; provided that any such increase will not be effective until the sixty-fifth (65th) day after such notice is delivered to the Company. The express purpose of this Section 6(d) is to preclude any Holder's ownership of any shares of Series C Preferred Stock from causing such Holder to become subject to the reporting and liability provisions of Section 16(a) and 16(b) of the Exchange Act, including pursuant to Rule 16a-2 promulgated by the Commission, and this Section 6(d) shall be interpreted according to such express purpose. Solely for purposes of this Section 6(d) and for purposes of the provisos to Section 7(b) and (c) hereof, the term "Holder" shall include all persons whose beneficial ownership of the Common Stock is aggregated pursuant to Section 13(d)(3) of the Exchange Act or Rule 13d-5 thereunder.

Section 7. Certain Adjustments: Rights of Holders Upon Certain Dividends, Distributions or Fundamental Transactions.

a) Stock Dividends and Stock Splits. If the Corporation, at any time while any Series C Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock, (ii) subdivides outstanding shares of Common Stock into a larger number of shares or (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, then the Conversion Price shall be adjusted to equal adjustment multiplied by a fraction of which the numerator shall be the number of shares of Common an amount equal to such Conversion Price immediately before such Stock outstanding immediately before giving effect to such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after giving effect to such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision or combination, as applicable.

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then, without duplication of any dividends to be due on Series C Preferred Stock pursuant to Section 3(a), each Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if such Holder had held the number of shares of Common Stock acquirable upon conversion of such Holder's Series C Preferred Stock (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership

Limitation) on the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights; provided, however, that, to the extent that any Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Purchase Rights to which such Holder is entitled pursuant hereto shall be limited to the same extent provided in Section 6(d) hereof.

c) Pro Rata Distributions. During such time as the Series C Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of the Series C Preferred Stock, then, in each such case, without duplication of any dividends to be due on Series C Preferred Stock pursuant to Section 3(a), each Holder shall be entitled to participate in such Distribution to the same extent that such Holder would have participated therein if such Holder had held the number of shares of Common Stock acquirable upon complete Conversion of the Series C Preferred Stock (without regard to any limitations on Conversion hereof, including without limitation, the Beneficial Ownership Limitation) on the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution; provided, however, that, to the extent that any Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the rights appurtenant to such securities, property or options to which such Holder is entitled pursuant hereto shall be limited to the same extent provided in Section 6(d) hereof.

d) Fundamental Transaction. If, at any time while the Series C Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions is a party to any merger or consolidation of the Corporation, (ii) the Corporation, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange, in each case pursuant to which the Common Stock is converted into, exchanged for or represents solely the right to receive, other securities, cash or property, or any combination thereof (such other securities, cash or property, or combination thereof, the "Reference Property," and the amount and kind of Reference Property that a holder of one share of Common Stock would be entitled to receive on account of such transaction, a "Reference Property Unit") (each such transaction, a "Fundamental Transaction"), then, notwithstanding anything to the contrary herein, (I) at the effective time of such Fundamental Transaction, the Conversion Shares due upon conversion of any Series C Preferred Stock shall be determined in the same manner as if each reference to any number of shares of Common Stock in this Certificate of Designation were instead a reference to the same number of Reference Property Units and (II) if such Reference Property Unit consists of any security of a Person other than the Corporation, then such Person (and, as a condition to the Corporation effecting such Fundamental Transaction, the Corporation shall ensure that such Person) shall execute such instruments as shall be necessary to give effect to this Section 7(d). If holders of Common Stock are given any choice as to the securities, cash or property to be received in such Fundamental Transaction, then each Holder shall be given the same choice as to the Reference Property Unit it receives upon any conversion of the Series C Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Reference Property Units. The Corporation shall cause any successor entity in a

Fundamental Transaction in which the Corporation is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents in accordance with the provisions of this Section 7(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holders and approved by the Holders (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holders, deliver to the Holder in exchange for the Series C Preferred Stock a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the Series C Preferred Stock which is convertible in accordance with this Section 7(d), and which is reasonably satisfactory in form and substance to the Holders. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and, except in the case of a lease, be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the “Corporation” shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

e) Calculations. All calculations under this Section 7 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 7, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.

f) Notice to the Holders.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be filed at each office or agency maintained for the purpose of conversion of the Series C Preferred Stock, and shall cause to be delivered to each Holder at its last address as it shall appear upon the stock books of the Corporation, at least twenty (20) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer, share exchange, dissolution, liquidation or winding up is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, share exchange, dissolution, liquidation or winding up, provided that the failure to deliver such notice or any defect therein or in the delivery

thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material non-public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. For the avoidance of doubt, notwithstanding such notice or corporate event, each Holder shall remain entitled to convert the Conversion Amount of its Series C Preferred Stock (or any part hereof) as provided herein.

Section 8. Miscellaneous.

a) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder, including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile or other electronic delivery, or sent by a nationally recognized overnight courier service, addressed to the Corporation, at the address set forth above Attention: Corporate Secretary, facsimile number (626) 304-3401, or such other facsimile number or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this Section 8(a). Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by facsimile or other electronic delivery, or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number or address of such Holder appearing on the books of the Corporation, or if no such facsimile number or address appears on the books of the Corporation, at the principal place of business of such Holder, as set forth in the Purchase Agreement. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given.

b) Absolute Obligation. Except as expressly provided herein, no provision of this Certificate of Designation shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages, accrued dividends and accrued interest, as applicable, on the shares of Series C Preferred Stock at the time, place, and rate, and in the coin or currency, herein or in the Purchase Agreement prescribed.

c) Lost or Mutilated Series C Preferred Stock Certificate. If a Holder's Series C Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series C Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership thereof, reasonably satisfactory to the Corporation.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby

irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby. If any party shall commence an action or proceeding to enforce any provisions of this Certificate of Designation, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.

e) Waiver. Any waiver by the Corporation or a Holder of a breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation on any other occasion. Any waiver by the Corporation or a Holder must be in writing.

f) Severability. If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

g) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h) Headings. The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

i) Status of Converted or Reacquired Series C Preferred Stock. Shares of Series C Preferred Stock may only be issued pursuant to the Purchase Agreement. If any shares of Series C Preferred Stock shall be converted or reacquired by the Corporation, such shares shall resume the status of authorized but unissued shares of preferred stock and shall no longer be designated as Series C Convertible Preferred Stock.

EXHIBIT A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF SERIES C PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series C Convertible Preferred Stock indicated below into shares of common stock, par value \$0.001 per share (the "Common Stock"), of Arrowhead Research Corporation, a Delaware corporation (the "Corporation"), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as may be required by the Corporation in accordance with the Purchase Agreement. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____

Number of shares of Series C Preferred Stock owned prior to Conversion: _____

Number of shares of Series C Preferred Stock to be Converted: _____

Stated Value of shares of Series C Preferred Stock to be Converted: _____

Number of shares of Common Stock to be Issued: _____

Applicable Conversion Price: _____

Number of shares of Series C Preferred Stock subsequent to Conversion: _____

Address for Delivery: _____

or

DWAC Instructions:

Broker no: _____

Account no: _____

[HOLDER]

By: _____

Name:

Title: