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

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**FORM 8-K**

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**CURRENT REPORT**

**PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Date of Report (Date of earliest event reported): June 17, 2010

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**Arrowhead Research Corporation**

(Exact name of registrant as specified in its charter)

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0-21898  
(Commission File Number)

Delaware  
(State or other jurisdiction of incorporation)

46-0408024  
(IRS Employer Identification No.)

201 South Lake Avenue, Suite 703, Pasadena, CA 91101  
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code (626) 304-3400

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4 (c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 1.01. Entry into a Material Definitive Agreement.**

On June 17, 2010, Arrowhead Research Corporation (the "Company"), entered into a Placement Agent Agreement (the "Placement Agent Agreement") with Oppenheimer & Co. Inc. ("Oppenheimer") as placement agent relating to the issuance and sale (the "Offering") to certain institutional and individual investors (the "Investors") of 6,592,989 units (the "Units"), with each Unit consisting of (i) one share of common stock of the Company (the "Common Stock") and (ii) a warrant to purchase 0.5 shares of Common Stock for a purchase price of \$1.312 per Unit. Upon the closing the Offering, the Company expects to receive aggregate gross offering proceeds of \$8.65 million and net offering proceeds of \$7.86 million, after deducting placement agent commissions and estimated offering fees and expenses.

The exercise price of the warrants shall be \$1.65 per share. Subject to certain exceptions, the warrants are exercisable beginning on December 23, 2010 and expire on June 23, 2015. The warrants are not exercisable to the extent that the exercise would result in a holder beneficially owning more than 9.99% of the outstanding Common Stock. In addition, the warrants include provisions for the adjustment in exercise price of the warrants and number of shares of Common Stock to be issued upon exercise of the warrants upon the occurrence of certain events. The form of warrant to be issued to the Investors in connection with the Offering is included as Exhibit 4.1 to this Form 8-K and is incorporated herein by reference.

Oppenheimer will receive a fee of 6.5% of the gross proceeds of the Offering, with such resulting amount reduced by \$45,000 and reimbursement of certain expenses incurred in connection with the Offering of up to \$100,000 in the aggregate. The Placement Agent Agreement requires us to indemnify Oppenheimer and certain of its affiliates against certain liabilities, including liabilities under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, or to contribute to payments the Placement Agent may be required to make because of any of those liabilities.

A copy of the Placement Agent Agreement is filed as Exhibit 10.1 to this report and is incorporated herein by reference. The closing of the Offering is expected to take place on or about June 22, 2010, subject to the satisfaction of customary closing conditions.

Following execution of the Placement Agent Agreement, the Company entered into definitive subscription agreements with the Investors relating to the sale of the Units. A copy of the form of subscription agreement is filed as Exhibit 10.2 to this Current Report and is incorporated herein by reference.

The Units being offered by the Company in this Offering were registered under an existing shelf registration statement on Form S-3 (Registration No. 333-148218), which was declared effective by the Securities and Exchange Commission on June 11, 2010. The prospectus supplement describing the terms of the Offering will be filed with the Securities and Exchange Commission on June 18, 2010. A copy of the opinion of Goodwin Procter LLP relating to the legality of the issuance of the Common Stock underlying the Units sold in the Offering is attached as Exhibit 5.1 hereto.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits

| <u>Exhibit No.</u> | <u>Description</u>  |
|--------------------|---|
| Exhibit 4.1        | Form of Common Stock Warrant  |
| Exhibit 5.1        | Opinion of Goodwin Procter LLP  |
| Exhibit 10.1       | Placement Agent Agreement, dated June 17, 2010, by and between the Company and Oppenheimer & Co. Inc. |
| Exhibit 10.2       | Form of Subscription Agreement  |
| Exhibit 23.1       | Consent of Goodwin Procter LLP (included in Exhibit 5.1)  |

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: June 18, 2010

ARROWHEAD RESEARCH CORPORATION

By: /s/ Kenneth A. Myszkowski

Kenneth A. Myszkowski  
Chief Financial Officer

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**EXHIBIT INDEX**

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## [FORM OF WARRANT]

## ARROWHEAD RESEARCH CORPORATION

## WARRANT TO PURCHASE COMMON STOCK

Warrant No.: [ ]

Number of Shares of Common Stock: [ ]

Date of Issuance: June [ ], 2010 (“**Issuance Date**”)

Arrowhead Research Corporation, a Delaware corporation, (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [ ], the registered holder hereof or its permitted assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the “**Warrant**”), at any time or times on or after the date immediately after the six month anniversary of the Issuance Date (the “**Initial Exercisability Date**”), but not after 11:59 p.m., New York time, on the Expiration Date (as defined below), [ ( )] fully paid nonassessable shares of Common Stock (as defined below) (the “**Warrant Shares**”). Except as otherwise defined herein, capitalized terms in this Warrant shall have the meanings set forth in Section 16. This Warrant is one of the Warrants to purchase Common Stock (the “**SPA Warrants**”) issued pursuant to Section 1 of those certain Subscription Agreements, dated as of June 17, 2010 (the “**Subscription Date**”), by and among the Company and certain investors, including the Holder (individually, a “**Buyer**” and collectively, the “**Buyers**”) referred to therein (the “**Subscription Agreements**”).

## 1. EXERCISE OF WARRANT.

(A) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder on any time or times on or after the Initial Exercisability Date in whole or in part, by (i) delivery of a written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant and (ii) (A) payment to the Company of an amount equal to the applicable Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash or by wire transfer of immediately available funds or (B) by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the

right to purchase the remaining number of Warrant Shares. On or before the first (1st) Business Day following the date on which the Company has received each of the Exercise Notice and the Aggregate Exercise Price (or notice of a Cashless Exercise) (the “**Exercise Delivery Documents**”), the Company shall transmit by facsimile an acknowledgment of confirmation of receipt of the Exercise Delivery Documents to the Holder and the Company’s transfer agent (the “**Transfer Agent**”). On or before the third (3rd) Trading Day following the date on which the Company has received all of the Exercise Delivery Documents (the “**Share Delivery Date**”), the Company shall, upon the request of the Holder, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“**DTC**”) through its Deposit/Withdrawal At Custodian system. Upon delivery of the Exercise Delivery Documents, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account. If this Warrant is submitted in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than five (5) Business Days after any exercise and at its own expense, issue a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional shares of Common Stock are to be issued upon the exercise of this Warrant, but rather the number of shares of Common Stock to be issued shall be rounded up to the nearest whole number. The Company shall pay any and all taxes which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant.

(B) Exercise Price. For purposes of this Warrant, “**Exercise Price**” means \$1.65, subject to adjustment as provided herein.

(C) Company’s Failure to Timely Deliver Securities. If within three (3) Trading Days after the Company’s receipt of the facsimile copy of a Exercise Notice the Company shall fail to credit the Holder’s balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder’s exercise hereunder or pursuant to the Company’s obligation pursuant to clause (ii) below, and if on or after such Trading Day the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock issuable upon such exercise that the Holder anticipated receiving from the Company (a “**Buy-In**”), then the Company shall, within three (3) Business Days after the Holder’s request and in the Holder’s discretion, either (i) pay in cash to the Holder the amount by which (x) the Holder’s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (A) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue by (B) the price at which the sell order giving rise to such purchase obligation was executed, and (ii) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder.

(D) **Cashless Exercise.** Notwithstanding anything contained herein to the contrary, if the Registration Statement (as defined in the Subscription Agreements) covering the issuance of the Warrant Shares that are the subject of the Exercise Notice (the “**Unavailable Warrant Shares**”) is not available for the issuance of such Unavailable Warrant Shares, the Holder may only exercise this Warrant in whole or in part, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, by electing to receive upon such exercise the “Net Number” of shares of Common Stock determined according to the following formula (a “**Cashless Exercise**”):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A = the total number of shares with respect to which this Warrant is then being exercised.

B = the Weighted Average Price of the shares of Common Stock (as reported by Bloomberg) for the Trading Day immediately preceding the date of the Exercise Notice.

C = the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

(E) **Disputes.** In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 12.

(F) **Limitations on Exercises.**

a. (i) **Beneficial Ownership.** The Company shall not effect the exercise of this Warrant, and the Holder shall not have the right to exercise this Warrant, to the extent that after giving effect to such exercise, such Person (together with such Person’s affiliates) would beneficially own in excess of [4.99][9.99]% (the “**Maximum Percentage**”) of the shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by such Person and its affiliates shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by such Person and its affiliates and (B) exercise or conversion of the

unexercised or unconverted portion of any other securities of the Company beneficially owned by such Person and its affiliates (including, without limitation, any convertible notes or convertible preferred stock or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “**1934 Act**”), it being acknowledged by a Holder that the Company is not representing to such Holder that such calculation is in compliance with Section 13(d) of the 1934 Act and such Holder is solely responsible for any filings required to be made in accordance therewith. To the extent that the limitation contained in this Section 1(f)(i) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which portion of this Warrant is exercisable shall be in the sole discretion of a Holder, and the submission of a Notice of Exercise shall be deemed to be each Holder’s determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which portion of this Warrant is exercisable, in each case subject to such aggregate percentage limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company’s most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the Securities and Exchange Commission, as the case may be, (2) a more recent public announcement by the Company or (3) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of the Holder, the Company shall within two (2) Business Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including the SPA Warrants, by the Holder and its affiliates since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% specified in such notice; provided that (i) any such increase will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company, and (ii) any such increase or decrease will apply only to the Holder and not to any other holder of SPA Warrants. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f)(i) to correct this paragraph (or any portion hereof) which may be defective or

inconsistent with the intended beneficial ownership limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation.

(G) Insufficient Authorized Shares. If at any time while any of the Warrants remain outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance upon exercise of the Warrants at least a number of shares of Common Stock equal to 100% (the “**Required Reserve Amount**”) of the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of all Warrants then outstanding (an “**Authorized Share Failure**”), then the Company shall immediately take all action necessary to increase the Company’s authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for all of the SPA Warrants then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than sixty (60) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its shareholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each shareholder with a proxy statement and shall use its best efforts to solicit its shareholders’ approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the shareholders that they approve such proposal.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(A) Adjustment upon Issuance of shares of Common Stock. If and whenever on or after the Subscription Date the Company issues or sells, or in accordance with this Section 2 is deemed to have issued or sold, any shares of Common Stock (including the issuance or sale of shares of Common Stock owned or held by or for the account of the Company, but excluding shares of Common Stock deemed to have been issued or sold by the Company in connection with any Excluded Securities) for a consideration per share (the “**New Issuance Price**”) less than the price (the “**Applicable Price**”) equal to the Exercise Price in effect immediately prior to such issue or sale or deemed issuance or sale (the foregoing a “**Dilutive Issuance**”), then immediately after such Dilutive Issuance, the Exercise Price then in effect shall be reduced to an amount equal to the New Issuance Price. For purposes of determining the adjusted Exercise Price under this Section 2(a), the following shall be applicable:

Issuance of Options. If the Company in any manner grants any Options and the lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Option or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the granting or sale of such Option for such price per share. For purposes of this Section 2(a)(i), the “lowest price per share for which one share of Common Stock

is issuable upon exercise of such Options or upon conversion, exercise or exchange of such Convertible Securities issuable upon exercise of any such Option” shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the granting or sale of the Option, upon exercise of the Option and upon conversion, exercise or exchange of any Convertible Security issuable upon exercise of such Option. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock or of such Convertible Securities upon the exercise of such Options or upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities.

Issuance of Convertible Securities. If the Company in any manner issues or sells any Convertible Securities and the lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the issuance or sale of such Convertible Securities for such price per share. For the purposes of this Section 2(a)(ii), the “lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof” shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to one share of Common Stock upon the issuance or sale of the Convertible Security and upon conversion, exercise or exchange of such Convertible Security. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities, and if any such issue or sale of such Convertible Securities is made upon exercise of any Options for which adjustment of this Warrant has been or is to be made pursuant to other provisions of this Section 2(a), no further adjustment of the Exercise Price shall be made by reason of such issue or sale.

Change in Option Price or Rate of Conversion. If the purchase price provided for in any Options, the additional consideration, if any, payable upon the issue, conversion, exercise or exchange of any Convertible Securities, or the rate at which any Convertible Securities are convertible into or exercisable or exchangeable for shares of Common Stock increases or decreases at any time, the Exercise Price in effect at the time of such increase or decrease shall be adjusted to the Exercise Price which would have been in effect at such time had such Options or Convertible Securities provided for such increased or decreased purchase price, additional consideration or increased or decreased conversion rate, as the case may be, at the time initially granted, issued or sold. For purposes of this Section 2(a)(iii), if the terms of any Option or Convertible

Security that was outstanding as of the date of issuance of this Warrant are increased or decreased in the manner described in the immediately preceding sentence, then such Option or Convertible Security and the shares of Common Stock deemed issuable upon exercise, conversion or exchange thereof shall be deemed to have been issued as of the date of such increase or decrease. No adjustment pursuant to this Section 2(a)(iii) shall be made if such adjustment would result in an increase of the Exercise Price then in effect.

**Calculation of Consideration Received.** In case any Option is issued in connection with the issue or sale of other securities of the Company, together comprising one integrated transaction, (x) the Options will be deemed to have been issued for a value determined by use of the Black Scholes Option Pricing Model (the “**Option Value**”) and (y) the other securities issued or sold in such integrated transaction shall be deemed to have been issued for the difference of (I) the aggregate consideration received by the Company, less (II) the Option Value. If any shares of Common Stock, Options or Convertible Securities are issued or sold or deemed to have been issued or sold for cash, the consideration received therefor will be deemed to be the net amount received by the Company therefor. If any shares of Common Stock, Options or Convertible Securities are issued or sold for a consideration other than cash, the amount of such consideration received by the Company will be the fair value of such consideration, except where (i) such consideration consists of publicly traded securities, in which case the amount of consideration received by the Company will be the Closing Sale Price of such security on the date of receipt or (ii) such consideration consists of privately held securities in a stock-for-stock exchange for Company Common Stock, in which case the amount of consideration received by the Company will be determined using the Closing Sale Price of the Company’s Common Stock on the date of such exchange. If any shares of Common Stock, Options or Convertible Securities are issued to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving entity, the amount of consideration therefor will be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be. The fair value of any consideration other than cash or publicly traded securities will be determined jointly by the Company and the Required Holders. If such parties are unable to reach agreement within ten (10) days after the occurrence of an event requiring valuation (the “**Valuation Event**”), the fair value of such consideration will be determined within five (5) Business Days after the tenth (10th) day following the Valuation Event by an independent, reputable appraiser jointly selected by the Company and the Required Holders. The determination of such appraiser shall be final and binding upon all parties

absent manifest error and the fees and expenses of such appraiser shall be borne by the Company.

Record Date. If the Company takes a record of the holders of shares of Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in shares of Common Stock, Options or in Convertible Securities or (B) to subscribe for or purchase shares of Common Stock, Options or Convertible Securities, then such record date will be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(B) Adjustment upon Subdivision or Combination of shares of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(b) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(C) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(c) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

(D) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. If the Company shall declare or make 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**"), the Holder shall be entitled to receive the dividend or distribution of assets that would have been payable to the Holder pursuant to the Distribution had the Holder exercised this Warrant in full without regard to any limitations on the exercise of this Warrant (or, if this Warrant

has been partially exercised prior to the Distribution, any unexercised portion thereof without regard to any limitations on the exercise thereof) immediately prior to such record date.

#### 4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(A) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to all record holders of any class of shares of Common Stock (the "**Purchase Rights**"), then the 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 the Holder had held the number of shares of Common Stock acquirable upon complete exercise of any previously unexercised portion of this Warrant (without regard to any limitations on the exercise of this Warrant) immediately before 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.

(B) Fundamental Transactions. The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the provisions of this Section (4) (b) pursuant to written agreements in form and substance satisfactory to the Required Holders and approved by the Required Holders prior to such Fundamental Transaction, including agreements to deliver to each holder of the SPA Warrants in exchange for such Warrants a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, an adjusted exercise price equal to the value for the shares of Common Stock reflected by the terms of such Fundamental Transaction, and exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and satisfactory to the Required Holders. Upon the occurrence of any Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of the Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the Fundamental Transaction, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) which the Holder would have been entitled to receive upon the happening of such Fundamental Transaction had this Warrant been converted immediately prior to such Fundamental Transaction, as adjusted in accordance with the provisions of this Warrant.

(C) Notwithstanding the foregoing, in the event of a Fundamental Transaction other than one in which a Successor Entity that is a publicly traded corporation whose stock is quoted or listed for trading on an Eligible Market assumes this Warrant such that the Warrant shall be exercisable for the publicly traded Common Stock of such Successor Entity, at the request of the Holder delivered before the thirtieth (30th) day after the consummation of such Fundamental Transaction, the Company (or the Successor Entity) shall purchase this Warrant from the Holder by paying to the Holder, within five (5) Business Days after such request (or, if later, on the effective date of the Fundamental Transaction), cash in an amount equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of such Fundamental Transaction.

5. **WARRANT HOLDER NOT DEEMED A SHAREHOLDER.** Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a shareholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a shareholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 5, the Company shall provide the Holder with copies of the same notices and other information given to the shareholders of the Company generally, contemporaneously with the giving thereof to the shareholders.

6. **NONCIRCUMVENTION.** The Company hereby covenants and agrees that the Company will not, by amendment of its Articles of Incorporation, Bylaws or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issue or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the SPA Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the SPA Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the SPA Warrants then outstanding (without regard to any limitations on exercise).

## 7. REISSUANCE OF WARRANTS.

(A) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(B) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(C) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, that no Warrants for fractional shares of Common Stock shall be given.

(D) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given in accordance with Section 6 of the Terms and Conditions For Purchase of Units attached as Annex 1 to the Subscription Agreements. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of

any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation, provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

10. GOVERNING LAW. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York.

11. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and all the Buyers and shall not be construed against any person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

12. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile within two (2) Business Days of receipt of the Exercise Notice giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

13. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and the other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach

may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

14. TRANSFER. Subject to compliance with applicable securities laws, this Warrant may be offered for sale, sold, transferred or assigned without the consent of the Company. The Holder shall provide notice of any such transfer to the Company no later than three (3) Trading Days after such transfer.

15. FORCE MAJEURE. Notwithstanding any provision herein to the contrary, the failure of any party to timely satisfy obligations hereunder shall be excused to the extent that (i) such failure follows the occurrence of a Force Majeure Event (defined below), and (ii) such Force Majeure Event has materially adversely affected the ability of such party (or its agents, including banks, transfer agents, and clearinghouses) to perform hereunder. A failure to perform shall be excused only for so long as the Force Majeure Event continues to materially adversely affect such person's ability to perform. For purposes of this Section, "Force Majeure Event" shall mean the occurrence of any of the following events: (a) trading in securities generally on either the NASDAQ Stock Market or the New York Stock Exchange shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges by the Securities and Exchange Commission or the Financial Industry Regulatory Authority, Inc.; (b) a general banking moratorium shall have been declared by any of federal, New York or California authorities; (c) an act of war, terrorism or hostility shall have occurred, or (d) a strike, fire, flood, earthquake, accident or other calamity or Act of God shall have occurred.

16. SEVERABILITY. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

17. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(A) "**Approved Stock Plan**" means any employee benefit plan which has been approved by the Board of Directors of the Company, pursuant to which the Company's securities may be issued to any employee, officer or director for services provided to the Company; provided that the issuance price, conversion price or exercise price, as the case may be, may not be less than Closing Sale Price of the Company's Common Stock on the date of any such issuance.

(B) **“Black Scholes Value”** means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the “OV” function on Bloomberg determined as of the day immediately prior to the day of the closing of the applicable Fundamental Transaction for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the day immediately following the public announcement of the applicable Fundamental Transaction, (iii) the underlying price per share used in such calculation shall be the sum of the price per share being offered in cash, if any, plus the value of any non cash consideration, if any, being offered in the Fundamental Transaction and (iv) a 365 day annualization factor.

(C) **“Bloomberg”** means Bloomberg Financial Markets.

(D) **“Business Day”** means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(E) **“Closing Bid Price”** and **“Closing Sale Price”** means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the “pink sheets” by Pink Sheets LLC (formerly the National Quotation Bureau, Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(F) **“Common Stock”** means (i) the Company’s shares of Common Stock, par value \$0.001 per share, and (ii) any share capital into which such Common Stock shall have been changed or any share capital resulting from a reclassification of such Common Stock.

(G) “**Convertible Securities**” means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(H) “**Eligible Market**” means the Principal Market, The New York Stock Exchange, Inc., The NYSE Amex Equities, The NASDAQ Global Market or The NASDAQ Global Select Market.

(I) “**Expiration Date**” means the date that is sixty (60) months after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a “**Holiday**”), the next day that is not a Holiday.

(J) “**Excluded Securities**” means any Common Stock issued or issuable: (i) in connection with any Approved Stock Plan; provided that the option term, exercise price or similar provisions of any issuances pursuant to such Approved Stock Plan are not amended, modified or changed on or after the Subscription Date; (ii) upon the exercise of the Warrants; provided that the terms of the Warrants are not amended, modified or changed after the Subscription Date; (iii) upon conversion, exercise or exchange of any Options or Convertible Securities which are outstanding on the day immediately preceding the Subscription Date, provided that the terms of such Options or Convertible Securities are not amended, modified or changed on or after the Subscription Date; or (iv) during the period beginning on the Issuance Date and ending on the six-month anniversary thereof, in connection with one or more strategic acquisitions accomplished by a stock for stock exchange on an arm’s-length basis, the purpose of which is not to raise additional capital for the Company or its subsidiaries that are controlled, directly or indirectly, by the Company (the “**Controlled Subsidiaries**”); provided that any Common Stock issued or issuable in connection with any transaction contemplated by clause (iv) above that is attributable to capital raising for the Company or its Controlled Subsidiaries (other than nominal amounts of capital) shall not be deemed to be Excluded Securities. Notwithstanding the foregoing, any Common Stock issued or issuable to raise capital for the Company or its Controlled Subsidiaries, directly or indirectly, in connection with any transaction contemplated by clause (iv) above, including, without limitation, securities issued in one or more related transactions or that result in similar economic consequences, shall not be deemed to be Excluded Securities.

(K) “**Fundamental Transaction**” means that (A) the Company shall directly or indirectly, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Person, or (ii) allow another Person to make a purchase, tender or exchange offer that is accepted by the holders of more than the 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the Person or Persons making or party to, or associated or affiliated with the Persons making or party to, such purchase, tender or exchange offer), or (iii) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock purchase agreement or other business combination), or

(v) reorganize, recapitalize or reclassify its Common Stock, or (B) any “person” or “group” (as these terms are used for purposes of Sections 13(d) and 14(d) of the 1934 Act), become the “beneficial owner” (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, of 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock.

(L) “**Options**” means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(M) “**Parent Entity**” of a Person means an entity that, directly or indirectly, controls the applicable Person and whose common stock or equivalent equity security is quoted or listed on an Eligible Market, or, if there is more than one such Person or Parent Entity, the Person or Parent Entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(N) “**Person**” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(O) “**Principal Market**” means The NASDAQ Capital Market.

(P) “**Required Holders**” means the holders of the SPA Warrants representing at least a majority of the shares of Common Stock underlying the SPA Warrants then outstanding.

(Q) “**Successor Entity**” means the Person (or, if so elected by the Required Holders, the Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or the Person (or, if so elected by the Required Holders, the Parent Entity) with which such Fundamental Transaction shall have been entered into.

(R) “**Trading Day**” means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded; provided that “Trading Day” shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for less than 4.5 hours or any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York time).

(S) “**Weighted Average Price**” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York City time (or such other time as the Principal Market publicly announces as the official open of trading), and ending at 4:00:00 p.m., New York City time (or such other time as the Principal Market publicly announces is the official close of trading) as reported by Bloomberg through its “Volume at Price” function, or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York City time

(or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York City time (or such other time as such market publicly announces is the official close of trading) as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, or if not listed on the OTC Bulletin Board, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the “pink sheets” by Pink Sheets LLC (formerly the National Quotation Bureau, Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12 with the term “Weighted Average Price” being substituted for the term “Exercise Price”. All such determinations are to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

**[Signature Page Follows]**

IN WITNESS WHEREOF, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

**ARROWHEAD RESEARCH CORPORATION**

By: \_\_\_\_\_  
Name:  
Title:

Signature Page to Common Stock Purchase Warrant

## EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK

## ARROWHEAD RESEARCH CORPORATION

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ of the shares of Common Stock (“**Warrant Shares**”) of Arrowhead Research Corporation, a Delaware corporation (the “**Company**”), evidenced by the attached Warrant to Purchase Common Stock (the “**Warrant**”). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

a “Cash Exercise” with respect to \_\_\_\_\_ Warrant Shares; and/or

a “Cashless Exercise” pursuant to Section 1(d) with respect to \_\_\_\_\_ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$\_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder \_\_\_\_\_ Warrant Shares in accordance with the terms of the Warrant.

Account Number:

DTC Participant Number:

Date: \_\_\_\_\_,

\_\_\_\_\_  
Name of Registered Holder

By: \_\_\_\_\_

Name:

Title:

June 17, 2010

Arrowhead Research Corporation  
201 S. Lake Avenue, Suite 703  
Pasadena, CA 91101

Re: Securities Registered under Registration Statement on Form S-3

Ladies and Gentlemen:

Reference is made to our opinion letter dated December 20, 2007 and included as Exhibit 5.1 to the Registration Statement on Form S-3 (file No. 333-148218) (the "**Registration Statement**") filed on December 20, 2007 by Arrowhead Research Corporation, a Delaware corporation (the "**Company**"), with the Securities and Exchange Commission (the "**Commission**") under the Securities Act of 1933, as amended (the "**Securities Act**"). The Registration Statement was declared effective by the Commission on January 30, 2008 and Post-Effective Amendment No. 1 to the Registration Statement was filed with the Commission on June 1, 2010. We are delivering this supplemental opinion letter in connection with the prospectus supplement (the "**Prospectus Supplement**") filed on June 18, 2010 by the Company with the Commission pursuant to Rule 424 under the Securities Act. The Prospectus Supplement relates to the offering by the Company of up to 6,592,989 shares (the "**Primary Shares**") of Common Stock, \$0.001 par value per share (the "**Common Stock**"), of the Company and warrants (the "**Warrants**") to purchase up to 3,296,497 additional shares of Common Stock (the "**Warrant Shares**," and, together with the Primary Shares and the Warrants, the "**Securities**") covered by the Registration Statement. We understand that the Securities are to be offered and sold in the manner described in the Prospectus Supplement.

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions expressed below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinions set forth below, on certificates of officers of the Company.

The opinion expressed below is limited to the Delaware General Corporation Law (which includes applicable provisions of the Delaware Constitution and reported judicial decisions interpreting the Delaware General Corporation Law and the Delaware Constitution).

Based on the foregoing, we are of the opinion that the Primary Shares have been duly authorized and, when issued, delivered and paid for as contemplated in the Prospectus Supplement, will be validly issued, fully paid and non-assessable. Assuming that there is a sufficient number of authorized and unissued shares of Common Stock at the time of a Warrant exercise, the Warrant Shares, when and if issued upon exercise of the Warrants in accordance with the terms thereof, will be validly issued, fully paid and non-assessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm under the caption "Legal Matters" in the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Goodwin Procter LLP

GOODWIN PROCTER LLP

6,592,989 Units

## ARROWHEAD RESEARCH CORPORATION

PLACEMENT AGENT AGREEMENT

June 17, 2010

Oppenheimer & Co. Inc.  
300 Madison Avenue, 4th Floor  
New York, NY 10017

Dear Sirs:

1. *INTRODUCTION.* Arrowhead Research Corporation, a Delaware corporation (the “**Company**”), proposes to issue and sell to the purchasers, pursuant to the terms of this Placement Agent Agreement (this “**Agreement**”) and the Subscription Agreements in the form of Exhibit A attached hereto (the “**Subscription Agreements**”) entered into with the purchasers identified therein (each a “**Purchaser**” and collectively, the “**Purchasers**”), up to an aggregate of 6,592,989 units (the “**Units**”) with each Unit consisting of (i) one share of common stock, \$0.001 par value per share (the “**Common Stock**”) of the Company and (ii) one warrant to purchase 0.5 shares of Common Stock (the “**Warrants**”). The terms and conditions of the Warrants are set forth in the form of Exhibit B attached hereto. The Company hereby confirms its agreement with Oppenheimer & Co. Inc. (the “**Placement Agent**”) to act as Placement Agent in accordance with the terms and conditions hereof.

2. *AGREEMENT TO ACT AS PLACEMENT AGENT; PLACEMENT OF SECURITIES.* On the basis of the representations, warranties and agreements of the Company herein contained, and subject to all the terms and conditions of this Agreement:

2.1 The Company has authorized and hereby acknowledges that the Placement Agent has acted as its exclusive agent to solicit offers for the purchase of all or part of the Units from the Company in connection with the proposed offering of the Units (the “**Offering**”). Until the Closing Date (as defined in Section 4 hereof) or earlier upon the termination of this Agreement pursuant to Section 9, the Company shall not, without the prior written consent of the Placement Agent, solicit or accept offers to purchase Units otherwise than through the Placement Agent.

2.2 The Company hereby acknowledges that the Placement Agent, as agent of the Company, used its best efforts to solicit offers to purchase the Units from the Company on the terms and subject to the conditions set forth in the Prospectus (as defined below). The Placement Agent shall use commercially reasonable efforts to assist the Company in obtaining performance by each Purchaser whose offer to purchase Units was solicited by the Placement Agent and accepted by the Company, but the Placement Agent shall not, except as otherwise provided in this Agreement, be obligated to disclose

the identity of any potential purchaser or have any liability to the Company in the event any such purchase is not consummated for any reason. Under no circumstances will the Placement Agent be obligated to underwrite or purchase any Units for its own account and, in soliciting purchases of Units, the Placement Agent acted solely as the Company's agents and not as principal. Notwithstanding the foregoing and except as otherwise provided in Section 2.3, it is understood and agreed that the Placement Agent (or its affiliates) may, solely at its discretion and without any obligation to do so, purchase Units as principal.

2.3 Subject to the provisions of this Section 2, offers for the purchase of Units were solicited by the Placement Agent as agent for the Company at such times and in such amounts as the Placement Agent deemed advisable. The Placement Agent shall communicate to the Company, orally or in writing, each reasonable offer to purchase Units received by it as agent of the Company. The Company shall have the sole right to accept offers to purchase the Units and may reject any such offer, in whole or in part. The Placement Agent shall have the right, in its discretion reasonably exercised, without notice to the Company, to reject any offer to purchase Units received by it, in whole or in part, and any such rejection shall not be deemed a breach of this Agreement.

2.4 The Units are being sold to the Purchasers at a price of \$1.312 per Unit. The purchases of the Units by the Purchasers shall be evidenced by the execution of Subscription Agreements by each of the Purchasers and the Company.

2.5 As compensation for services rendered, on the Closing Date (as defined in Section 4 hereof), the Company shall pay to the Placement Agent by wire transfer of immediately available funds to an account or accounts designated by the Placement Agent, an aggregate amount equal to six and one-half percent (6.5%) of the gross proceeds received by the Company from the sale of the Units on such Closing Date, with such resulting amount reduced by \$45,000 (the "**Placement Fee**").

2.6 No Units which the Company has agreed to sell pursuant to this Agreement and the Subscription Agreements shall be deemed to have been purchased and paid for, or sold by the Company, until such Units shall have been delivered to the Purchaser thereof against payment by such Purchaser. If the Company shall default in its obligations to deliver Units to a Purchaser whose offer it has accepted, the Company shall indemnify and hold the Placement Agent harmless against any loss, claim, damage or expense arising from or as a result of such default by the Company in accordance with the procedures set forth in Section 8(a) herein.

3. *REPRESENTATIONS AND WARRANTIES OF THE COMPANY.* The Company represents and warrants to, and agrees with, the Placement Agent and the Purchasers as follows; any references to the "**Company**" shall include any and all subsidiaries (as defined in Section 15 hereof) of the Company unless the context otherwise requires:

(a) The Company has prepared and filed in conformity with the requirements of the Securities Act of 1933, as amended (the "**Securities Act**"), and published rules and

regulations thereunder (the “**Rules and Regulations**”) adopted by the Securities and Exchange Commission (the “**Commission**”) a “shelf” Registration Statement (as hereinafter defined) on Form S-3 (File No. 333-148218), which became effective as of June 11, 2010 (the “**Effective Date**”), including a base prospectus relating to the securities registered pursuant to such Registration Statement (the “**Base Prospectus**”), and such amendments and supplements thereto as may have been required on or prior to the date of this Agreement. The term “**Registration Statement**” as used in this Agreement means the registration statement (including all exhibits, financial schedules and all documents and information deemed to be a part of the Registration Statement pursuant to Rules 430A, 430B and 430C of the Rules and Regulations), as amended and/or supplemented to the date of this Agreement, including the Base Prospectus. The Registration Statement is effective under the Securities Act and no stop order preventing or suspending the effectiveness of the Registration Statement or suspending or preventing the use of the Prospectus has been issued by the Commission and no proceedings for that purpose have been instituted or, to the knowledge of the Company, are threatened by the Commission. The Company, if required by the Rules and Regulations of the Commission, will file the Prospectus (as defined below), with the Commission pursuant to Rule 424(b) of the Rules and Regulations. The term “**Prospectus**” as used in this Agreement means the prospectus and prospectus supplement, in the form in which they are to be filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations, or, if the prospectus or prospectus supplement is not to be filed with the Commission pursuant to Rule 424(b), then the prospectus in the form included as part of the Registration Statement as of the Effective Date, except that if any revised prospectus or prospectus supplement shall be provided to the Placement Agent by the Company for use in connection with the offering and sale of the Units which differs from such prospectus or prospectus supplement (whether or not such revised prospectus or prospectus supplement is required to be filed by the Company pursuant to Rule 424(b) of the Rules and Regulations), the term “**Prospectus**” shall refer to such revised prospectus or prospectus supplement, as the case may be, from and after the time it is first provided to the Placement Agent for such use. Any preliminary prospectus or prospectus subject to completion included in the Registration Statement or filed with the Commission pursuant to Rule 424 of the Rules and Regulations is hereafter called a “**Preliminary Prospectus**.” Any reference herein to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 which were filed under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), on or before the last to occur of the Effective Date, the date of the Preliminary Prospectus, or the date of the Prospectus, and any reference herein to the terms “amend,” “amendment,” or “supplement” with respect to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include (i) the filing of any document under the Exchange Act after the Effective Date, the date of such Preliminary Prospectus or the date of the Prospectus, as the case may be, which is incorporated by reference and (ii) any such document so filed. If the Company has filed an abbreviated registration statement to register additional securities pursuant to Rule 462(b) under the Rules and Regulations (the “**462(b) Registration Statement**”), then any reference herein to the

Registration Statement shall also be deemed to include such 462(b) Registration Statement.

(b) As of the Applicable Time (as defined below) and as of the Closing Date, neither (i) any General Use Free Writing Prospectus (as defined below) issued at or prior to the Applicable Time, and the Pricing Prospectus (as defined below) and the information included on Schedule A hereto, all taken together (collectively, the “**General Disclosure Package**”) nor (ii) any individual Limited Use Free Writing Prospectus (as defined below), included or will include, any untrue statement of a material fact or omitted or as of the Closing Date will omit, to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to information contained in or omitted from any Issuer Free Writing Prospectus, in reliance upon, and in conformity with, written information furnished to the Company by the Placement Agent specifically for inclusion therein, which information the parties hereto agree is limited to the Placement Agent’s Information (as defined in Section 17). As used in this paragraph (b) and elsewhere in this Agreement:

“**Applicable Time**” means 5:00 P.M., New York time, on the date of this Agreement.

“**General Use Free Writing Prospectus**” means any Issuer Free Writing Prospectus that is identified on Schedule A to this Agreement.

“**Issuer Free Writing Prospectus**” means any “**issuer free writing prospectus**,” as defined in Rule 433 of the Rules and Regulations relating to the Units in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g) of the Rules and Regulations.

“**Limited Use Free Writing Prospectuses**” means any Issuer Free Writing Prospectus that is not a General Use Free Writing Prospectus.

“**Pricing Prospectus**” means the Preliminary Prospectus, if any, and the Base Prospectus, each as amended and supplemented immediately prior to the Applicable Time, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof.

(c) No order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus relating to the Offering has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been instituted or threatened by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Securities Act and the Rules and Regulations, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to information contained in or omitted from any Preliminary Prospectus, in reliance upon, and in conformity with, written information

furnished to the Company by the Placement Agent specifically for inclusion therein, which information the parties hereto agree is limited to the Placement Agent's Information (as defined in Section 17).

(d) At the time the Registration Statement became or becomes effective, at the date of this Agreement and at the Closing Date, the Registration Statement conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; the Prospectus, at the time the Prospectus was issued and at the Closing Date, conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; *provided, however*, that the foregoing representations and warranties in this paragraph (d) shall not apply to information contained in or omitted from the Registration Statement or the Prospectus in reliance upon, and in conformity with, written information furnished to the Company by the Placement Agent specifically for inclusion therein, which information the parties hereto agree is limited to the Placement Agent's Information (as defined in Section 17).

(e) Each Issuer Free Writing Prospectus, if any, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Units or until any earlier date that the Company notified or notifies the Placement Agent as described in Section 5(e), did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, Pricing Prospectus or the Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof that has not been superseded or modified, or includes an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company by the Placement Agent specifically for inclusion therein, which information the parties hereto agree is limited to the Placement Agent's Information (as defined in Section 17).

(f) The documents incorporated by reference in the Prospectus, when they became effective or were filed with the Commission, as the case may be, conformed in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and none of such documents contained any untrue statement of a material fact or omitted to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and any further documents so filed and incorporated by reference in the Prospectus, when such documents become effective or are filed with the Commission, as the case may be, will conform in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the

Commission thereunder and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading.

(g) The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the Offering other than any Preliminary Prospectus, the Prospectus and other materials, if any, permitted under the Securities Act and consistent with Section 5(b) below. The Company is not an “ineligible issuer” in connection with the offering pursuant to Rules 164, 405 or 433 under the Securities Act. The Company will file with the Commission all Issuer Free Writing Prospectuses, if any, in the time and manner required under Rules 163(b)(2) and 433(d) of the Rules and Regulations.

(h) The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the State of Delaware. The Company is duly qualified to do business and is in good standing as a foreign corporation in each jurisdiction in which its ownership or lease of property or the conduct of its business requires such qualification and has all power and authority necessary to own or hold its properties and to conduct the business in which it is engaged, except where the failure to so qualify or have such power or authority (i) would not have, singularly or in the aggregate, a material adverse effect on the condition (financial or otherwise), results of operations, assets or business or prospects of the Company, or (ii) impair in any material respect the ability of the Company to perform its obligations under this Agreement or to consummate any transactions contemplated by this Agreement, the General Disclosure Package or the Prospectus (any such effect as described in clauses (i) or (ii), a “**Material Adverse Effect**”). Except as disclosed in the General Disclosure Package and the Prospectus, the Company does not own or control, directly or indirectly, any interest in any corporation, partnership, limited liability partnership, limited liability company, association or other entity. The Company has the following “Subsidiaries” (as defined in Section 15): Unidym, Inc., Calando Pharmaceuticals, Inc., Tego Biosciences Corporation and Agonn Systems, Inc.

(i) The Company has all necessary corporate power and authority to enter into this Agreement and each of the Subscription Agreements, and to perform and to discharge its obligations hereunder and thereunder; and each of this Agreement and the Subscription Agreements has been duly authorized, executed and delivered by the Company, and constitutes a valid and binding obligation of the Company enforceable in accordance with its terms.

(j) The shares of Common Stock to be issued and sold by the Company to the Purchasers hereunder and under the Subscription Agreements and the shares of Common Stock issuable upon the exercise of the Warrants (the “**Warrant Shares**”) have been duly and validly authorized and the Common Stock, when issued and delivered against payment therefor as provided herein and in the Subscription Agreements and the Warrant Shares, when issued and delivered against payment therefor as provided in the Warrants, will be duly and validly issued, fully paid and non-assessable and free of any preemptive

or similar rights and will conform to the descriptions thereof contained in the General Disclosure Package and the Prospectus.

(k) The Company has an authorized capitalization as set forth in the Pricing Prospectus, and all of the issued shares of capital stock of the Company have been duly authorized and validly issued, are fully paid and non-assessable, have been issued in all material respects in compliance with federal and state securities laws, and conform to the description thereof contained in the General Disclosure Package and the Prospectus. As of June 11, 2010, there were 64,180,420 shares of Common Stock issued and outstanding, and 26,003,539 shares of Common Stock were issuable upon the exercise of all options, warrants and convertible securities outstanding as of such date. Since the date of the Base Prospectus, the Company has not issued any securities, other than Common Stock issued pursuant to this Agreement or pursuant to the exercise of rights previously outstanding under the Company's equity compensation plans, outstanding warrants and other agreements. None of the outstanding shares of Common Stock was issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. There are no authorized or outstanding shares of capital stock, options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company other than those described in the Prospectus or accurately described in the General Disclosure Package. The description of the Company's stock option, stock bonus and other equity compensation plans or arrangements, and the options or other rights granted thereunder, as described in the General Disclosure Package and the Prospectus, accurately and fairly present, in all material respects, the information required to be shown with respect to such plans, arrangements, options and rights.

(l) The execution, delivery and performance of this Agreement and the Subscription Agreements by the Company, the issue and sale of the Units by the Company and the consummation of the transactions contemplated hereby and thereby will not (with or without notice or lapse of time or both): (i) conflict with or result in a breach or violation of any of the terms or provisions of, constitute a default or Debt Repayment Triggering Event (as defined below) under, give rise to any right of termination or other right or the cancellation or acceleration of any right or obligation or loss of a benefit under, or give rise to the creation or imposition of any lien, encumbrance, security interest, claim or charge upon any property or assets of the Company pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject; (ii) result in any violation of the provisions of the charter or by-laws (or analogous governing instruments, as applicable) of the Company; (iii) result in the violation of any law, statute, rule, regulation, judgment, order or decree of any court or governmental agency or body, domestic or foreign, specifically naming the Company and having jurisdiction over the Company or any of its properties or assets. A "**Debt Repayment Triggering Event**" means any event or condition that gives, or with the giving of notice or lapse of time would give the holder of any note, debenture or other evidence of indebtedness (or

any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company.

(m) Except for the registration of the securities offered in the Offering under the Securities Act and such consents, approvals, authorizations, registrations or qualifications as may be required under the Exchange Act and applicable state or foreign securities laws, the Financial Industry Regulatory Authority, Inc. ("**FINRA**") and the Nasdaq Capital Market (the "**Nasdaq CM**") in connection with the offering and sale of the Units by the Company, no consent, approval, authorization or order of, or filing, qualification or registration with, any court or governmental agency or body, foreign or domestic, which has not been made, obtained or taken and is not in full force and effect, is required for the execution, delivery and performance of this Agreement and the Subscription Agreements by the Company, the offer or sale of the Units or the consummation of the transactions contemplated hereby or thereby.

(n) Rose, Snyder & Jacobs, who has certified certain financial statements and related schedules included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus, is an independent registered public accounting firm with respect to the Company as required by the Securities Act and the Rules and Regulations and the Public Company Accounting Oversight Board (United States) (the "**PCAOB**"). Except as disclosed in the Registration Statement and as pre-approved in accordance with the requirements set forth in Section 10A of the Exchange Act, Rose, Snyder & Jacobs has not been engaged by the Company to perform any "prohibited activities" (as defined in Section 10A of the Exchange Act).

(o) The financial statements, together with the related notes and schedules, included or incorporated by reference in the General Disclosure Package, the Prospectus and in the Registration Statement fairly present the financial position and the results of operations and changes in stockholders' equity and cash flows of the Company at the respective dates or for the respective periods therein specified. Such statements and related notes and schedules have been prepared in accordance with the generally accepted accounting principles in the United States ("**GAAP**") applied on a consistent basis throughout the periods involved except as may be set forth in the related notes included or incorporated by reference in the General Disclosure Package. The financial statements, together with the related notes and schedules, included or incorporated by reference in the General Disclosure Package and the Prospectus comply in all material respects with the Securities Act, the Exchange Act, and the Rules and Regulations and the rules and regulations under the Exchange Act. No other financial statements or supporting schedules or exhibits are required by the Securities Act or the Rules and Regulations to be described, or included or incorporated by reference in the Registration Statement, the General Disclosure Package or the Prospectus. There is no pro forma or as adjusted financial information which is required to be included in the Registration Statement, the General Disclosure Package, or the Prospectus or a document incorporated by reference therein in accordance with the Securities Act and the Rules and Regulations which has not been included or incorporated as so required.

(p) The Company has not sustained, since the date of the latest audited financial statements included or incorporated by reference in the General Disclosure Package, any Material Adverse Effect, otherwise than as set forth or contemplated in the General Disclosure Package; and, since such date, there has not been any change in the capital stock or long-term debt of the Company or any development involving a prospective adverse change, in or affecting the business, assets, general affairs, management, financial position, prospects, stockholders' equity or results of operations of the Company otherwise than as set forth or contemplated in the General Disclosure Package.

(q) Except as set forth in the General Disclosure Package, there is no legal or governmental action, suit, claim or proceeding pending to which the Company is a party or of which any property or assets of the Company is the subject which is required to be described in the Registration Statement, the General Disclosure Package or the Prospectus or a document incorporated by reference therein and is not described therein, or which, singularly or in the aggregate, if determined adversely to the Company could have a Material Adverse Effect or prevent the consummation of the transactions contemplated hereby; and to the best of the Company's knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others.

(r) The Company is not (i) in violation of its charter or by-laws, (ii) in default in any respect, and no event has occurred which, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which it is a party or by which it is bound or to which any of its property or assets is subject or (iii) in violation in any respect of any statute, law, ordinance, governmental rule or regulation or any judgment, order or decree of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or its property or assets, except with respect to clauses (ii) and (iii), any violations or defaults which, singularly or in the aggregate, would not have a Material Adverse Effect.

(s) The Company possesses all licenses, certificates, authorizations and permits issued by, and has made all declarations and filings with, the appropriate state, federal or foreign regulatory agencies or bodies which are necessary or desirable for the ownership of its properties or the conduct of its business as described in the General Disclosure Package and the Prospectus, except where any failures to possess or make the same, singularly or in the aggregate, would not have a Material Adverse Effect, and the Company has not received notification of any revocation or modification of any such license, certificate, authorization or permit and has no reason to believe that any such license, certificate, authorization or permit will not be renewed.

(t) The Company is not and, after giving effect to the Offering and the application of the proceeds thereof as described in the General Disclosure Package and the Prospectus, will not become an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder.

(u) Neither the Company nor, to the Company's knowledge, any of the Company's officers, directors or affiliates has taken or will take, directly or indirectly, any action designed or intended to stabilize or manipulate the price of any security of the Company, or which caused or resulted in, or which might in the future reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company.

(v) The Company, to its knowledge, owns or possesses adequate rights to use all patents, patent applications, patent rights, licenses, inventions, copyrights, know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, trademark registrations, service marks, service mark registrations, trade names, mask work rights and other intellectual property necessary to carry on the business now operated by it or proposed to be operated by it as described in the General Disclosure Package and the Prospectus (collectively, "**Intellectual Property**"), except where the lack of such ownership or rights to use would not have a Material Adverse Effect. Except as disclosed in the General Disclosure Package or the Prospectus, there is no litigation or other proceeding pending or, to the Company's knowledge, threatened and no claims are presently being asserted by any third party challenging or questioning the ownership, validity, or enforceability of the Company's right to use or own any Intellectual Property or asserting that the use of the Company's Intellectual Property by the Company or the operation of the Company's business infringes upon or misappropriates the Intellectual Property of any third party, and the Company is unaware of any facts which would form a reasonable basis for any such bona fide claim. Except as disclosed in the General Disclosure Package or the Prospectus, the Company is not otherwise aware of any infringement of or conflict with asserted rights of others with respect to the Company's Intellectual Property or the operation of the Company's business. Except as disclosed in the General Disclosure Package or the Prospectus, the Company is not otherwise aware of any facts or circumstances which would render any of the Company's Intellectual Property invalid or inadequate to protect the interests of the Company therein. Except as disclosed in the General Disclosure Package or the Prospectus, or as would not, individually or in the aggregate have a Material Adverse Effect, to the best of the Company's knowledge, (i) there is no infringement by third parties engaged in commercial activity of any Intellectual Property of the Company relating to the Company's business and (ii) there are no non-commercial activities being performed by any third parties which, upon commercialization thereof, could reasonably be expected to infringe on the Intellectual Property of the Company. The Company has, to its knowledge, taken all steps reasonably necessary to perfect its ownership of and interest in the Intellectual Property.

(w) Except as may be disclosed in the General Disclosure Package or the Prospectus, the Company possesses all material licenses, certificates, permits, consents, orders, approvals and authorizations from United States and foreign government authorities, including, without limitation, the Food and Drug Administration (the "**FDA**") and any agency of any foreign government and any other foreign regulatory authority exercising authority comparable to that of the FDA (including any non-governmental entity whose approval or authorization is required under foreign law comparable to that administered by the FDA) (each a "**Permit**") that are necessary for the Company to

conduct its business in the manner and to the extent now conducted. Each issued Permit is currently in full force and effect, and no proceeding has been instituted or is pending or, to the best of the Company's knowledge, is contemplated or threatened, which in any manner adversely affects or draws into question the validity or effectiveness thereof or relates in any way to the revocation or modification thereof.

(x) Each Investigational New Drug Application and New Drug Application submitted to the FDA or similar application to foreign regulatory bodies, and related documents and information, has been submitted and maintained in compliance in all material respects with applicable statutes, rules and regulations administered or promulgated by the FDA or other regulatory body. The studies, tests, preclinical studies and clinical trials conducted by or on behalf of the Company that are described in the General Disclosure Package or the Prospectus were and, if still pending, are being, conducted, in all material respects in accordance with experimental protocols, procedures and controls pursuant to, where applicable, accepted professional and scientific standards for products or product candidates comparable to those being developed by the Company; the drug substances used in the clinical trials have been manufactured, under current Good Manufacturing Practices. The Company uses all commercially reasonable efforts to review, from time to time, the progress and results of the studies, tests and preclinical and clinical trials and, based upon (i) the information provided to the Company by the third parties conducting such studies, tests, preclinical studies and clinical trials that are described in the Prospectus and the Company's review of such information, and (ii) the Company's actual knowledge, the Company reasonably believes that the descriptions of the results of such studies, tests, preclinical studies and clinical trials are accurate and complete in all material respects. The Company has not received any notices or correspondence from the FDA or any foreign, state or local governmental body exercising comparable authority requiring the termination, suspension or material modification of any studies, tests, preclinical studies or clinical trials conducted by or on behalf of the Company, which notices have not been resolved prior to the date hereof. No filing or submission to the FDA or any other regulatory body, that was or is intended to be the basis for any approval of the Company's products or product candidates, contains any material omission or, to the knowledge of the Company, material false information.

(y) The clinical trials conducted by or on behalf of or sponsored by the Company or in which the Company or its product candidates have participated that are described in the General Disclosure Package and Prospectus or the results of which are referred to in the General Disclosure Package or Prospectus were and, if still pending, are being conducted (and with respect to such clinical trials being conducted on behalf of the Company, are, to the Company's knowledge, being conducted) in all material respects in accordance with current good clinical practices. The descriptions in the General Disclosure Package and Prospectus of the results of such clinical trials are accurate and fairly present the data derived from such clinical trials, and the Company has no knowledge of any studies or other clinical trials whose results are materially inconsistent with or otherwise materially call into question the results described or referred to in the General Disclosure Package and Prospectus. Except to the extent disclosed in the General Disclosure Package and the Prospectus, the Company has not received any

notices or other correspondence from the FDA or any other governmental agency which notices have not been resolved prior to the date hereof requiring the termination, suspension or modification of any clinical trials that are described in the General Disclosure Package or Prospectus or the results of which are referred to in the General Disclosure Package or Prospectus.

(z) The Company has good and marketable title in fee simple to, or has valid rights to lease or otherwise use, all items of real or personal property which are material to the business of the Company, in each case free and clear of all liens, encumbrances, security interests, claims and defects that may result in a Material Adverse Effect.

(aa) No organized labor disturbance by the employees of the Company exists or, to the best of the Company's knowledge, is imminent and the Company has no actual knowledge of any existing or imminent labor disturbance by the employees of any of its principal suppliers, manufacturers, customers or contractors, which might be expected to have a Material Adverse Effect. The Company is not aware that any key employee or significant group of employees of the Company plans to terminate employment with the Company.

(bb) No "prohibited transaction" (as defined in Section 406 of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder ("**ERISA**"), or Section 4975 of the Internal Revenue Code of 1986, as amended from time to time (the "**Code**")) or "accumulated funding deficiency" (as defined in Section 302 of ERISA) or any of the events set forth in Section 4043(b) of ERISA (other than events with respect to which the thirty (30)-day notice requirement under Section 4043 of ERISA has been waived) has occurred or could be reasonably expected to occur with respect to any employee benefit plan of the Company which could, singularly or in the aggregate, have a Material Adverse Effect. Each employee benefit plan of the Company is in compliance in all material respects with applicable law, including ERISA and the Code. The Company has not incurred and could not be reasonably expected to incur liability under Title IV of ERISA with respect to the termination of, or withdrawal from, any pension plan (as defined in ERISA). Each pension plan for which the Company would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified, and nothing has occurred, whether by action or by failure to act, which could, singularly or in the aggregate, cause the loss of such qualification.

(cc) The Company is in compliance with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to its business ("**Environmental Laws**"), except where the failure to comply would not, singularly or in the aggregate, have a Material Adverse Effect. There has been no storage, generation, transportation, handling, treatment, disposal, discharge, emission, or other release of any kind of toxic or other wastes or other hazardous substances regulated by Environmental Laws ("**Hazardous Substances**") or caused by the Company (or, to the Company's knowledge, any other entity for whose acts or omissions the Company is or may otherwise be liable) upon any

of the property now or previously owned or leased by the Company, or upon any other property, in violation of any law, statute, ordinance, rule, regulation, order, judgment, decree or permit or which would, under any law, statute, ordinance, rule (including rule of common law), regulation, order, judgment, decree or permit, give rise to any liability, except for any violation or liability which would not have, singularly or in the aggregate with all such violations and liabilities, a Material Adverse Effect; and there has been no disposal, discharge, emission or other release of any kind onto such property or into the environment surrounding such property of any Hazardous Substances, except for any such disposal, discharge, emission, or other release of any kind which would not have, singularly or in the aggregate with all such discharges and other releases, a Material Adverse Effect.

(dd) The Company (i) has timely filed all federal, state, local and foreign tax returns required to be filed or has requested extensions thereof and all such returns were true, complete and correct, (ii) has paid all federal, state, local and foreign taxes, assessments, governmental or other charges due and payable for which it is liable, including, without limitation, all sales and use taxes and all taxes which the Company is obligated to withhold from amounts owing to employees, creditors and third parties, and (iii) does not have any tax deficiency or claims outstanding or assessed or, to the best of its knowledge, proposed against any of them, except those, in each of the cases described in clauses (i), (ii) and (iii) of this paragraph (dd), that would not, singularly or in the aggregate, have a Material Adverse Effect. The Company has not engaged in any transaction which is a corporate tax shelter or which could be characterized as such by the Internal Revenue Service or any other taxing authority. The Company reasonably believes that the accruals and reserves on the books and records of the Company in respect of tax liabilities for any taxable period not yet finally determined are adequate to meet any assessments and related liabilities for any such period, and since December 31, 2006, the Company has not incurred any liability for taxes other than in the ordinary course.

(ee) The Company carries, or is covered by, insurance in such amounts and covering such risks as is adequate for the conduct of its business and the value of its properties and as is customary for companies engaged in similar businesses in similar industries. The Company has no reason to believe that it will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Effect. The Company has not been denied any insurance coverage that it has sought or for which it has applied.

(ff) The Company maintains a system of internal accounting and other controls sufficient to provide reasonable assurances that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and

appropriate action is taken with respect to any differences. Except as described in the General Disclosure Package, since the end of the Company's most recent audited fiscal year, there has been (A) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (B) no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(gg) The minute books of the Company have been made available to the Placement Agent and counsel for the Placement Agent, and such books (i) contain a complete summary of all meetings and actions of the board of directors (including each board committee) and stockholders of the Company (or analogous governing bodies and interest holders, as applicable), since October 1, 2007 through the date of the latest meeting and action, and (ii) accurately in all material respects reflect all transactions referred to in such minutes.

(hh) There is no franchise, lease, contract, agreement or document required by the Securities Act or by the Rules and Regulations to be described in the General Disclosure Package and in the Prospectus or a document incorporated by reference therein or to be filed as an exhibit to the Registration Statement or a document incorporated by reference therein which is not described or filed therein as required; and all descriptions of any such franchises, leases, contracts, agreements or documents contained in the Registration Statement or in a document incorporated by reference therein are accurate and complete descriptions of such documents in all material respects. Other than as described in the General Disclosure Package, no such franchise, lease, contract or agreement has been suspended or terminated for convenience or default by the Company or any of the other parties thereto, and the Company has not received notice nor does the Company have any other knowledge of any such pending or threatened suspension or termination, except for such pending or threatened suspensions or terminations that would not reasonably be expected to, singularly or in the aggregate, have a Material Adverse Effect.

(ii) No relationship, direct or indirect, exists between or among the Company on the one hand, and the directors, officers, stockholders, customers or suppliers of the Company or any of its affiliates on the other hand, which is required to be described in the General Disclosure Package and the Prospectus or a document incorporated by reference therein and which is not so described.

(jj) No person or entity has the right to require registration of shares of Common Stock or other securities of the Company because of the filing or effectiveness of the Registration Statement or otherwise, except for persons and entities who have expressly waived such right in writing or who have been given timely and proper written notice and have failed to exercise such right within the time or times required under the terms and conditions of such right. Except as described in the General Disclosure Package, there are no persons with registration rights or similar rights to have any securities registered by the Company under the Securities Act.

(kk) The Company does not own any “margin securities” as that term is defined in Regulation U of the Board of Governors of the Federal Reserve System (the “**Federal Reserve Board**”), and none of the proceeds of the sale of the Units will be used, directly or indirectly, for the purpose of purchasing or carrying any margin security, for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry any margin security or for any other purpose which might cause any of the Units to be considered a “purpose credit” within the meanings of Regulation T, U or X of the Federal Reserve Board.

(ll) Except for this Agreement and the letter agreement between the Company and the Placement Agent dated June 2, 2010, as amended by that certain letter agreement dated June 11, 2010 (the “**Engagement Letter**”), the Company is not a party to any contract, agreement or understanding with any person that would give rise to a valid claim against the Company or the Placement Agent for a brokerage commission, finder’s fee or like payment in connection with the offering and sale of the Units or any transaction contemplated by this Agreement, the Registration Statement, the General Disclosure Package or the Prospectus.

(mm) No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in either the General Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(nn) The Company is subject to and in compliance in all material respects with the reporting requirements of Section 13 or Section 15(d) of the Exchange Act. The Common Stock is registered pursuant to Section 12(b) or Section 12(g) of the Exchange Act and is listed on the Nasdaq CM, and the Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the Nasdaq CM, nor has the Company received any notification that the Commission or the Nasdaq Stock Market LLC is contemplating terminating such registration or listing. The Company has obtained or will make, as applicable, all necessary consents, approvals, authorizations or orders of, or filing, notification or registration with, the Nasdaq CM is required for the listing and trading of the Common Stock on the Nasdaq CM.

(oo) The Company is in compliance with all applicable provisions of the Sarbanes-Oxley Act of 2002 and all rules and regulations promulgated thereunder or implementing the provisions thereof (the “**Sarbanes-Oxley Act**”) that are currently in effect.

(pp) The Company is in compliance with all applicable corporate governance requirements set forth in the Nasdaq Marketplace Rules that are currently in effect.

(qq) There are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Securities Act) and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity that could reasonably be

expected to materially affect the Company's liquidity or the availability of or requirements for its capital resources required to be described in the General Disclosure Package and the Prospectus or a document incorporated by reference therein which have not been described as required.

(rr) There are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees or indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of their respective family members, except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus.

(ss) The statistical and market related data included in the Registration Statement, the General Disclosure Package and the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate.

(tt) Neither the Company nor any of its affiliates (within the meaning of FINRA Conduct Rule 2720(b)(1)(a)) directly or indirectly controls, is controlled by, or is under common control with, or is an associated person (within the meaning of Article I, Section 1(ee) of the By-laws of the FINRA) of, any member firm of FINRA.

(uu) No approval of the stockholders of the Company under the rules and regulations of Nasdaq (including Rule 5635 of the Nasdaq Marketplace Rules) is required for the Company to issue and deliver the Units to the Purchasers.

(vv) Neither the Company nor to the knowledge of the Company, any employee or agent of the Company has made any contribution or other payment to any official of, or candidate for, any federal, state, local or foreign office in violation of any law (including the Foreign Corrupt Practices Act of 1977, as amended) or of the character required to be disclosed in the Registration Statement, the General Disclosure Package or the Prospectus or a document incorporated by reference therein.

(ww) The operations of the Company are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the "Money Laundering Laws"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company with respect to the Money Laundering Laws is pending, or to the best knowledge of the Company, threatened.

(xx) Neither the Company nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company, is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC"); and the Company will not directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

Any certificate signed by or on behalf of the Company and delivered to the Placement Agent or to counsel for the Placement Agent shall be deemed to be a representation and warranty by the Company to the Placement Agent and the Purchasers as to the matters covered thereby.

4. *THE CLOSING.* The time and date of closing and delivery of the documents required to be delivered to the Placement Agent pursuant to Sections 5 and 7 hereof shall be at 10:00 a.m., New York time, on June 22, 2010 (the “**Closing Date**”) at the office of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo P.C., The Chrysler Center, 666 Third Avenue, New York, New York 10017.

5. *FURTHER AGREEMENTS OF THE COMPANY.* The Company agrees with the Placement Agent and the Purchasers:

(a) To prepare the Rule 462(b) Registration Statement, if necessary, in a form approved by the Placement Agent and file such Rule 462(b) Registration Statement with the Commission on the date hereof; to prepare the Prospectus in a form approved by the Placement Agent containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rules 430A, 430B and 430C and to file such Prospectus pursuant to Rule 424(b) of the Rules and Regulations not later than the second (2<sup>nd</sup>) business day following the execution and delivery of this Agreement or, if applicable, such earlier time as may be required by Rule 430B of the Rules and Regulations; to notify the Placement Agent immediately of the Company’s intention to file or prepare any supplement or amendment to any Registration Statement or to the Prospectus and to make no amendment or supplement to the Registration Statement, the General Disclosure Package or to the Prospectus to which the Placement Agent shall reasonably object by notice to the Company after a reasonable period to review; to advise the Placement Agent, promptly after they receive notice thereof, of the time when any amendment to any Registration Statement has been filed or becomes effective or any supplement to the General Disclosure Package or the Prospectus or any amended Prospectus has been filed and to furnish the Placement Agent copies thereof; to file promptly all material required to be filed by the Company with the Commission pursuant to Rule 433(d) or 163(b)(2), as the case may be; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) is required in connection with the Offering or sale of the Units; to advise the Placement Agent, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus, of the suspension of the qualification of the Units for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement, the General Disclosure Package or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus or suspending any such qualification, and promptly to use its best efforts to obtain the withdrawal of such order.

(b) The Company represents and agrees that, unless it obtains the prior consent of the Placement Agent, it has not made and will not, make any offer relating to the Units that would constitute a “free writing prospectus” as defined in Rule 405 of the Rules and Regulations unless the prior written consent of the Placement Agent has been received (each, a “**Permitted Free Writing Prospectus**”); *provided* that the prior written consent of the Placement Agent hereto shall be deemed to have been given in respect of the Issuer Free Writing Prospectuses included in Schedule A hereto. The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Issuer Free Writing Prospectus, including the requirements relating to timely filing with the Commission, legending and record keeping and will not take any action that would result in the Placement Agent or the Company being required to file with the Commission pursuant to Rule 433(d) of the Rules and Regulations a free writing prospectus prepared by or on behalf of the Placement Agent that the Placement Agent otherwise would not have been required to file thereunder.

(c) If at any time when a Prospectus relating to the Units is required to be delivered under the Securities Act, any event occurs or condition exists as a result of which the Prospectus, as then amended or supplemented, would include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, or the Registration Statement, as then amended or supplemented, would include any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein not misleading, or if for any other reason it is necessary at any time to amend or supplement any Registration Statement or the Prospectus to comply with the Securities Act or the Exchange Act, the Company will promptly notify the Placement Agent, and upon the Placement Agent’s request, the Company will promptly prepare and file with the Commission, at the Company’s expense, an amendment to the Registration Statement or an amendment or supplement to the Prospectus that corrects such statement or omission or effects such compliance and will deliver to the Placement Agent, without charge, such number of copies thereof as the Placement Agent may reasonably request. The Company consents to the use of the Prospectus or any amendment or supplement thereto by the Placement Agent.

(d) If the General Disclosure Package is being used to solicit offers to buy the Units at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Placement Agent, it becomes necessary to amend or supplement the General Disclosure Package in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, or to make the statements therein not conflict with the information contained or incorporated by reference in the Registration Statement then on file and not superseded or modified, or if it is necessary at any time to amend or supplement the General Disclosure Package to comply with any law, the Company promptly will either (i) prepare, file with the Commission (if required) and furnish to the Placement Agent and any dealers an appropriate amendment or supplement to the General Disclosure Package or (ii) prepare and file with the

Commission an appropriate filing under the Exchange Act which shall be incorporated by reference in the General Disclosure Package so that the General Disclosure Package as so amended or supplemented will not, in the light of the circumstances then prevailing, be misleading or conflict with the Registration Statement then on file, or so that the General Disclosure Package will comply with law.

(e) If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or will conflict with the information contained in the Registration Statement, Pricing Prospectus or Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof and not superseded or modified or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading, the Company has promptly notified or will promptly notify the Placement Agent so that any use of the Issuer Free Writing Prospectus may cease until it is amended or supplemented and has promptly amended or will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company by the Placement Agent specifically for inclusion therein, which information the parties hereto agree is limited to the Placement Agent's Information (as defined in Section 17).

(f) Upon request, to furnish promptly to the Placement Agent and to counsel for the Placement Agent a signed copy of the Registration Statement as originally filed with the Commission, and of each amendment thereto filed with the Commission, including all consents and exhibits filed therewith.

(g) To deliver promptly to the Placement Agent in New York City such number of the following documents as the Placement Agent shall reasonably request: (i) conformed copies of the Registration Statement as originally filed with the Commission (in each case excluding exhibits), (ii) each Preliminary Prospectus, if any, (iii) any Issuer Free Writing Prospectus, (iv) the Prospectus (the delivery of the documents referred to in clauses (i), (ii), (iii) and (iv) of this paragraph (g) to be made not later than 10:00 a.m., New York time, on the business day following the execution and delivery of this Agreement), (v) conformed copies of any amendment to the Registration Statement (excluding exhibits), (vi) any amendment or supplement to the General Disclosure Package or the Prospectus (the delivery of the documents referred to in clauses (v) and (vi) of this paragraph (g) to be made not later than 10:00 a.m., New York City time, on the business day following the date of such amendment or supplement) and (vii) any document incorporated by reference in the General Disclosure Package or the Prospectus (excluding exhibits thereto) (the delivery of the documents referred to in clause (vi) of this paragraph (g) to be made not later than 10:00 a.m., New York City time, on the business day following the date of such document).

(h) To make generally available to its stockholders as soon as practicable, but in any event not later than eighteen (18) months after the effective date of each Registration Statement (as defined in Rule 158(c) of the Rules and Regulations), an earnings statement of the Company (which need not be audited) complying with Section 11(a) of the Securities Act and the Rules and Regulations (including, at the option of the Company, Rule 158); and to furnish to its stockholders as soon as practicable after the end of each fiscal year an annual report (including a balance sheet and statements of income, stockholders' equity and cash flows of the Company certified by independent public accountants) and as soon as possible after each of the first three fiscal quarters of each fiscal year (beginning with the first fiscal quarter after the effective date of such Registration Statement), consolidated summary financial information of the Company for such quarter in reasonable detail.

(i) To take promptly from time to time such actions as the Placement Agent may reasonably request to qualify the Units for offering and sale under the securities or Blue Sky laws of such jurisdictions (domestic or foreign) as the Placement Agent may designate and to continue such qualifications in effect, and to comply with such laws, for so long as required to permit the offer and sale of Units in such jurisdictions; *provided* that the Company shall not be obligated to qualify as a foreign corporation in any jurisdiction in which it is not so qualified or to file a general consent to service of process in any jurisdiction.

(j) To the extent not available on the Commission's EDGAR system or any successor system, upon request, during the period of two (2) years from the date hereof, to deliver to the Placement Agent, (i) as soon as they are available, copies of all reports or other communications furnished to stockholders, and (ii) as soon as they are available, copies of any reports and financial statements furnished or filed with the Commission or any national securities exchange or automatic quotation system on which the Company's securities are listed or quoted.

(k) That the Company will not, for a period of ninety (90) days from the date of the Prospectus, (the "**Lock-Up Period**") without the prior written consent of the Placement Agent, directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, other than (i) the Company's sale of the Units hereunder, (ii) the issuance of Common Stock or options to acquire Common Stock pursuant to the Company's employee benefit plans, qualified stock option plans or other employee compensation plans as such plans are in existence on the date hereof and described in the Prospectus, (iii) the issuance of Common Stock pursuant to the valid exercises of options, warrants or rights outstanding on the date hereof, and (iv) the issuance of Common Stock in connection with one or more strategic acquisitions accomplished by a stock for stock exchange on an arm's-length basis, the purpose of which is not to raise additional capital for the Company or its subsidiaries that are controlled directly or indirectly by the Company. The Company will cause each executive officer and director listed in Schedule B to furnish to the Placement Agent, prior to the Closing Date, a letter, substantially in the form of Exhibit C hereto, pursuant to which each such person shall agree, among other things, not to directly or indirectly

offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, not to engage in any swap or other agreement or arrangement that transfers, in whole or in part, directly or indirectly, the economic risk of ownership of Common Stock or any such securities and not to engage in any short selling of any Common Stock or any such securities, during the Lock-Up Period, without the prior written consent of the Placement Agent. The Company also agrees that during such period, the Company will not file any registration statement, preliminary prospectus or prospectus, or any amendment or supplement thereto, under the Securities Act for any such transaction or which registers, or offers for sale, Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, except for a registration statement on Form S-8 relating to employee benefit plans. The Company hereby agrees that (i) if it issues an earnings release or material news, or if a material event relating to the Company occurs, during the last seventeen (17) days of the Lock-Up Period, or (ii) if prior to the expiration of the Lock-Up Period, the Company announces that it will release earnings results during the sixteen (16)-day period beginning on the last day of the Lock-Up Period, the restrictions imposed by this paragraph (k) or the letter shall continue to apply until the expiration of the eighteen (18)-day period beginning on the date of issuance of the earnings release or the occurrence of the material news or material event.

(l) To supply the Placement Agent with copies of all correspondence to and from, and all documents issued to and by, the Commission in connection with the registration of the Units under the Securities Act or the Registration Statement, any Preliminary Prospectus or the Prospectus, or any amendment or supplement thereto or document incorporated by reference therein.

(m) Prior to the Closing Date, to furnish to the Placement Agent, as soon as they have been prepared, copies of any unaudited interim consolidated financial statements of the Company for any periods subsequent to the periods covered by the financial statements appearing in or incorporated by reference into the Registration Statement and the Prospectus (if any).

(n) Prior to the Closing Date, not to issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Placement Agent is notified), without the prior written consent of the Placement Agent, which shall not be unreasonably withheld or delayed, unless in the judgment of the Company and its counsel, and after notification to the Placement Agent, such press release or communication is required by law.

(o) Until the Placement Agent shall have notified the Company of the completion of the offering of the Units, that the Company will not, and will cause its affiliated purchasers (as defined in Regulation M under the Exchange Act) not to, either alone or with one or more other persons, bid for or purchase, for any account in which it

or any of its affiliated purchasers has a beneficial interest, any Units, or attempt to induce any person to purchase any Units; and not to, and to cause its affiliated purchasers not to, make bids or purchase for the purpose of creating actual, or apparent, active trading in or of raising the price of the Units.

(p) Not to take any action prior to the Closing Date which would require the Prospectus to be amended or supplemented pursuant to Section 5.

(q) To at all times comply with all applicable provisions of the Sarbanes-Oxley Act in effect from time to time.

(r) To apply the net proceeds from the sale of the Units as set forth in the Registration Statement, the General Disclosure Package and the Prospectus under the heading "Use of Proceeds."

(s) To use its best efforts to list, effect and maintain, subject to notice of issuance, the Common Stock on the Nasdaq CM.

(t) To use its best efforts to assist the Placement Agent with any filings with FINRA and obtaining clearance from FINRA as to the amount of compensation allowable or payable to the Placement Agent.

(u) To use its best efforts to do and perform all things required to be done or performed under this Agreement by the Company prior to the Closing Date and to satisfy all conditions precedent to the delivery of the Units.

6. *PAYMENT OF EXPENSES*. The Company agrees to pay, or reimburse if paid by the Placement Agent, whether or not the transactions contemplated hereby are consummated or this Agreement is terminated: (a) the costs incident to the authorization, issuance, sale, preparation and delivery of the Units to the Purchasers and any taxes payable in that connection; (b) the costs incident to the Registration of the Units under the Securities Act; (c) the costs incident to the preparation, printing and distribution of the Registration Statement, the Base Prospectus, any Preliminary Prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package, the Prospectus, any amendments, supplements and exhibits thereto or any document incorporated by reference therein and the costs of printing, reproducing and distributing any transaction document by mail, telex or other means of communications; (d) the fees and expenses (including related fees and expenses of counsel for the Placement Agent) incurred in connection with securing any required review by FINRA of the terms of the sale of the Units and any filings made with FINRA; (e) any applicable listing, quotation or other fees; (f) the fees and expenses (including related reasonable, documented fees and expenses of counsel to the Placement Agent) of qualifying the Units under the securities laws of the several jurisdictions as provided in Section 5(i) and of preparing, printing and distributing wrappers, Blue Sky Memoranda and Legal Investment Surveys; (g) the cost of preparing and printing stock certificates; (h) all fees and expenses of the registrar and transfer agent of the Units, (i) the fees, disbursements and expenses of counsel to the Placement Agent not to exceed (without the prior consent of the Company which shall not be unreasonably withheld), along with any fees and expenses incurred in connection with (d) and (f) above, by counsel to the Placement Agent, in the aggregate, (i)

\$25,000 if the Offering is not consummated and (ii) \$75,000 if the Offering is consummated, and (j) all other costs and expenses incident to the offering of the Units or the performance of the obligations of the Company under this Agreement (including, without limitation, the fees and expenses of the Company's counsel and the Company's independent accountants and the travel and the other reasonable, documented expenses incurred by Company and the Placement Agent's personnel in connection with any "road show" including, without limitation, any expenses advanced by the Placement Agent on the Company's behalf (which will be promptly reimbursed, but which will not exceed \$25,000 in the aggregate without the prior written consent of the Company, which consent shall not be unreasonably withheld)); *provided, however*, except as otherwise provided in this Section 6 and in Sections 8 and 10, the Placement Agent shall pay their own costs and expenses.

7. *CONDITIONS TO THE OBLIGATIONS OF THE PLACEMENT AGENT AND THE PURCHASERS, AND THE SALE OF THE UNITS.* The respective obligations of the Placement Agent hereunder and the Purchasers under the Subscription Agreements, and the Closing of the sale of the Units, are subject to the accuracy, when made and as of the Applicable Time and on the Closing Date, of the representations and warranties of the Company contained herein, to the accuracy of the statements of the Company made in any certificates pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder, and to each of the following additional terms and conditions:

(a) No stop order suspending the effectiveness of the Registration Statement or any part thereof, preventing or suspending the use of any Base Prospectus, any Preliminary Prospectus, the Prospectus or any Permitted Free Writing Prospectus or any part thereof shall have been issued and no proceedings for that purpose or pursuant to Section 8A under the Securities Act shall have been initiated or threatened by the Commission, and all requests for additional information on the part of the Commission (to be included or incorporated by reference in the Registration Statement or the Prospectus or otherwise) shall have been complied with to the reasonable satisfaction of the Placement Agent; the Rule 462(b) Registration Statement, if any, each Issuer Free Writing Prospectus, if any, and the Prospectus shall have been filed with the Commission within the applicable time period prescribed for such filing by, and in compliance with, the Rules and Regulations and in accordance with Section 5(a) hereof, and the Rule 462(b) Registration Statement, if any, shall have become effective immediately upon its filing with the Commission; and FINRA shall have raised no objection to the fairness and reasonableness of the terms of this Agreement or the transactions contemplated hereby.

(b) The Placement Agent shall not have discovered and disclosed to the Company on or prior to the Closing Date that the Registration Statement or any amendment or supplement thereto contains an untrue statement of a fact which, in the opinion of counsel for the Placement Agent, is material or omits to state any fact which, in the opinion of such counsel, is material and is required to be stated therein or is necessary to make the statements therein not misleading, or that the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus or any amendment or supplement thereto contains an untrue statement of fact which, in the opinion of such counsel, is material or omits to state any fact which, in the opinion of such counsel, is

material and is necessary in order to make the statements, in the light of the circumstances in which they were made, not misleading.

(c) All corporate proceedings and other legal matters incident to the authorization, form and validity of each of this Agreement, the Subscription Agreements, the Units, the Registration Statement, the General Disclosure Package, each Issuer Free Writing Prospectus, if any, and the Prospectus and all other legal matters relating to this Agreement and the transactions contemplated hereby shall be reasonably satisfactory in all material respects to counsel for the Placement Agent, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

(d) Goodwin Procter LLP shall have furnished to the Placement Agent such counsel's written opinion, as corporate counsel to the Company, addressed to the Placement Agent dated the Closing Date, in the form attached hereto as Exhibit D.

(e) The Placement Agent shall have received from Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., counsel for the Placement Agent, such opinion or opinions, addressed to the Placement Agent, dated the Closing Date, with respect to such matters as the Placement Agent may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

(f) At the time of the execution of this Agreement, the Placement Agent shall have received from Rose, Snyder & Jacobs, a letter, addressed to the Placement Agent, executed and dated such date, in form and substance satisfactory to the Placement Agent (i) confirming that they are an independent registered accounting firm with respect to the Company within the meaning of the Securities Act and the Rules and Regulations and PCAOB and (ii) stating the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial statements and certain financial information contained or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus.

(g) On the effective date of any post-effective amendment to any Registration Statement that is filed prior to the Closing Date and on the Closing Date, the Placement Agent shall have received a letter (the "**Bring-Down Letter**") from Rose, Snyder & Jacobs, addressed to the Placement Agent and dated the Closing Date confirming, as of the date of the Bring-Down Letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the General Disclosure Package and the Prospectus, as the case may be, as of a date not more than three (3) business days prior to the date of the Bring-Down Letter), the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial information and other matters covered by its letter delivered to the Placement Agent concurrently with the execution of this Agreement pursuant to paragraph (f) of this Section 7.

(h) The Company shall have furnished to the Placement Agent and the Purchasers a certificate, dated the Closing Date, of its President and Chief Executive Officer and its Chief Financial Officer stating that (i) such officers have carefully examined the Registration Statement, the General Disclosure Package, any Permitted Free Writing Prospectus and the Prospectus and, in their opinion, the Registration Statement and each amendment thereto, at the Applicable Time and as of the date of this Agreement and as of the Closing Date did not include any untrue statement of a material fact and did not omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and the General Disclosure Package, as of the Applicable Time and as of the Closing Date, any Permitted Free Writing Prospectus as of its date and as of the Closing Date, the Prospectus and each amendment or supplement thereto, as of the respective date thereof and as of the Closing Date, did not include any untrue statement of a material fact and did not omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances in which they were made, not misleading, (ii) since the effective date of the Registration Statement, no event has occurred which should have been set forth in a supplement or amendment to the Registration Statement, the General Disclosure Package or the Prospectus that was not so set forth, (iii) to the best of their knowledge after reasonable investigation, as of the Closing Date, the representations and warranties of the Company in this Agreement are true and correct and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date, and (iv) there has not been, subsequent to the date of the most recent audited financial statements included or incorporated by reference in the General Disclosure Package, any material adverse change in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would involve a material adverse change or a prospective material adverse change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company, except as set forth in the Prospectus.

(i) Since the date of the latest audited financial statements included in the General Disclosure Package or incorporated by reference in the General Disclosure Package as of the date hereof, (i) the Company shall not have sustained any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth in the General Disclosure Package, and (ii) there shall not have been any change in the capital stock or long-term debt of the Company, or any change, or any development involving a prospective change, in or affecting the business, general affairs, management, financial position, stockholders' equity or results of operations of the Company, otherwise than as set forth in the General Disclosure Package, the effect of which, in any such case described in clause (i) or (ii) of this paragraph (i), is, in the judgment of the Placement Agent, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or delivery of the Units on the terms and in the manner contemplated in the General Disclosure Package.

(j) No action shall have been taken and no law, statute, rule, regulation or order shall have been enacted, adopted or issued by any governmental agency or body which would prevent the issuance or sale of the Units or materially and adversely affect

or which is, as of Closing Date, reasonably expected to materially and adversely affect, the business or operations of the Company; and no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued which would prevent the issuance or sale of the Units or materially and adversely affect, or which is, as of Closing Date, reasonably expected to materially and adversely affect the business or operations of the Company.

(k) Subsequent to the execution and delivery of this Agreement there shall not have occurred any of the following: (i) trading in securities generally on the New York Stock Exchange or Nasdaq CM or trading in any securities of the Company on any exchange or in the over-the-counter market, shall have been suspended or materially limited, or minimum or maximum prices or maximum range for prices shall have been established on any such exchange or such market by the Commission, by such exchange or market or by any other regulatory body or governmental authority having jurisdiction, (ii) a banking moratorium shall have been declared by Federal or state authorities or a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States, (iii) there shall have been an outbreak of or escalation in hostilities involving the United States, or there shall have been a declaration of a national emergency or war by the United States or (iv) there shall have occurred such a material adverse change in general economic, political or financial conditions (or the effect of international conditions on the financial markets in the United States shall be such) as to make it, in the reasonable judgment of the Placement Agent, impracticable or inadvisable to proceed with the sale or delivery of the Units on the terms and in the manner contemplated in the General Disclosure Package and the Prospectus.

(l) The Company shall have filed such applications as are necessary to include the Common Stock on the Nasdaq CM and satisfactory evidence of such action shall have been provided to the Placement Agent.

(m) The Placement Agent shall have received the written agreements, substantially in the form of Exhibit C hereto, of the executive officers and directors of the Company listed in Schedule B to this Agreement.

(n) The Company shall have entered into Subscription Agreements with each of the Purchasers and such agreements shall be in full force and effect.

(o) The Placement Agent shall have received clearance from FINRA as to the amount of compensation allowable or payable to the Placement Agent as described in the Pricing Prospectus.

(p) Prior to the Closing Date, the Company shall have furnished to the Placement Agent such further information, opinions, certificates, letters or documents as the Placement Agent shall have reasonably requested.

All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Placement Agent.

## 8. INDEMNIFICATION AND CONTRIBUTION.

(a) The Company shall indemnify and hold harmless the Placement Agent, its affiliates and each of its directors, officers, members, employees, representatives and agents and each person, if any, who controls the Placement Agent within the meaning of Section 15 of the Securities Act of or Section 20 of the Exchange Act (collectively the “**Placement Agent Indemnified Parties,**” and each a “**Placement Agent Indemnified Party**”) against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Placement Agent Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (A) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto or document incorporated by reference therein, or (B) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto or document incorporated by reference therein, a material fact required to be stated therein or necessary to make the statements therein not misleading, or (C) any breach of the representations and warranties of the Company contained herein or failure of the Company to perform its obligations hereunder or pursuant to any law, any act or failure to act, or any alleged act or failure to act, by the Placement Agent in connection with, or relating in any manner to, the Units or the Offering, and which is included as part of or referred to in any loss, claim, damage, expense, liability, action, investigation or proceeding arising out of or based upon matters covered by subclause (A), (B) or (C) above of this Section 8(a) (*provided* that the Company shall not be liable in the case of any matter covered by this subclause (C) to the extent that it is determined in a final judgment by a court of competent jurisdiction that such loss, claim, damage, expense or liability resulted directly from any such act, or failure to act, undertaken or omitted to be taken by the Placement Agent through its gross negligence or willful misconduct), and shall reimburse the Placement Agent Indemnified Party promptly upon demand for any legal fees or other expenses reasonably incurred by that Placement Agent Indemnified Party in connection with investigating, or preparing to defend, or defending against, or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding, as such fees and expenses are incurred; *provided, however*, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage, expense or liability arises out of or is based upon an untrue statement or alleged untrue statement in, or omission or alleged omission from any Preliminary Prospectus, any Registration Statement or the Prospectus, or any such amendment or supplement thereto, or any Issuer Free Writing Prospectus made in reliance upon and in conformity with written information furnished to the Company by the Placement Agent specifically for use therein, which information the parties hereto agree is limited to the Placement Agent’s Information (as defined in Section 17). This indemnity agreement is not exclusive and will be in addition to any liability, which the

Company might otherwise have and shall not limit any rights or remedies which may otherwise be available at law or in equity to each Placement Agent Indemnified Party.

(b) The Placement Agent shall indemnify and hold harmless the Company and its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the “**Company Indemnified Parties**” and each a “**Company Indemnified Party**”) against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Company Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, or (ii) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, a material fact required to be stated therein or necessary to make the statements therein not misleading, but in each case only to the extent that the untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company by the Placement Agent specifically for use therein, which information the parties hereto agree is limited to the Placement Agent’s Information as defined in Section 17, and shall reimburse the Company for any documented legal fees or other expenses reasonably incurred by such party in connection with investigating or preparing to defend or defending against or appearing as third party witness in connection with any such loss, claim, damage, liability, action, investigation or proceeding, as such fees and expenses are incurred. Notwithstanding the provisions of this Section 8(b), in no event shall any indemnity by the Placement Agent under this Section 8(b) exceed the total compensation received by the Placement Agent in accordance with Section 2.5.

(c) Promptly after receipt by an indemnified party under this Section 8 of notice of the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against an indemnifying party under this Section 8, notify such indemnifying party in writing of the commencement of that action; *provided, however*, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 8 except to the extent it has been materially prejudiced by such failure; and, *provided, further*, that the failure to notify an indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 8. If any such action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense of such action with counsel reasonably satisfactory to the indemnified party (which counsel shall not, except with the written consent of the indemnified party, be

counsel to the indemnifying party). After notice from the indemnifying party to the indemnified party of its election to assume the defense of such action, except as provided herein, the indemnifying party shall not be liable to the indemnified party under Section 8 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense of such action other than reasonable costs of investigation; *provided, however*, that any indemnified party shall have the right to employ separate counsel in any such action and to participate in the defense of such action but the fees and expenses of such counsel (other than reasonable costs of investigation) shall be at the expense of such indemnified party unless (i) the employment thereof has been specifically authorized in writing by the Company in the case of a claim for indemnification under Section 8(a) or Section 2.6 or the Placement Agent in the case of a claim for indemnification under Section 8(b), (ii) such indemnified party shall have been advised by its counsel that there may be one or more legal defenses available to it which are different from or additional to those available to the indemnifying party, or (iii) the indemnifying party has failed to assume the defense of such action and employ counsel reasonably satisfactory to the indemnified party within a reasonable period of time after notice of the commencement of the action or the indemnifying party does not diligently defend the action after assumption of the defense, in which case, if such indemnified party notifies the indemnifying party in writing that it elects to employ separate counsel at the expense of the indemnifying party, the indemnifying party shall not have the right to assume the defense of (or, in the case of a failure to diligently defend the action after assumption of the defense, to continue to defend) such action on behalf of such indemnified party and the indemnifying party shall be responsible for legal or other expenses subsequently incurred by such indemnified party in connection with the defense of such action; *provided, however*, that the indemnifying party shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys at any time for all such indemnified parties (in addition to any local counsel), which firm shall be designated in writing by the Placement Agent if the indemnified parties under this Section 8 consist of any Placement Agent Indemnified Party or by the Company if the indemnified parties under this Section 8 consist of any Company Indemnified Parties. Subject to this Section 8(c), the amount payable by an indemnifying party under Section 8 shall include, but not be limited to, (x) reasonable legal fees and expenses of counsel to the indemnified party and any other expenses in investigating, or preparing to defend or defending against, or appearing as a third party witness in respect of, or otherwise incurred in connection with, any action, investigation, proceeding or claim, and (y) all amounts paid in settlement of any of the foregoing. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of judgment with respect to any pending or threatened action or any claim whatsoever, in respect of which indemnification or contribution could be sought under this Section 8 (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party in form and substance reasonably satisfactory to such indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on

behalf of any indemnified party. Subject to the provisions of the following sentence, no indemnifying party shall be liable for settlement of any pending or threatened action or any claim whatsoever that is effected without its written consent (which consent shall not be unreasonably withheld or delayed), but if settled with its written consent, if its consent has been unreasonably withheld or delayed or if there be a judgment for the plaintiff in any such matter, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss or liability by reason of such settlement or judgment. In addition, if at any time an indemnified party shall have requested that an indemnifying party reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated herein effected without its written consent if (i) such settlement is entered into more than forty-five (45) days after receipt by such indemnifying party of the request for reimbursement, (ii) such indemnifying party shall have received notice of the terms of such settlement at least thirty (30) days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

(d) If the indemnification provided for in this Section 8 is unavailable or insufficient to hold harmless an indemnified party under Section 8(a) or Section 8(b), then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid, payable or otherwise incurred by such indemnified party as a result of such loss, claim, damage, expense or liability (or any action, investigation or proceeding in respect thereof), as incurred, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and the Placement Agent on the other hand from the offering of the Units, or (ii) if the allocation provided by clause (i) of this Section 8(d) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) of this Section 8(d) but also the relative fault of the Company on the one hand and the Placement Agent on the other with respect to the statements, omissions, acts or failures to act which resulted in such loss, claim, damage, expense or liability (or any action, investigation or proceeding in respect thereof) as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Placement Agent on the other with respect to such offering shall be deemed to be in the same proportion as the total net proceeds from the offering of the Units purchased under this Agreement (before deducting expenses) received by the Company bear to the total Placement Fee received by the Placement Agent in connection with the Offering, in each case as set forth in the table on the cover page of the Prospectus. The relative fault of the Company on the one hand and the Placement Agent on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Placement Agent on the other, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such untrue statement, omission, act or failure to act; *provided* that the parties hereto agree that the written information furnished to the Company by the Placement Agent for use in any Preliminary Prospectus, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, consists solely of the Placement Agent's Information as defined in Section 17.  
The

Company and the Placement Agent agree that it would not be just and equitable if contributions pursuant to this Section 8(d) were to be determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage, expense, liability, action, investigation or proceeding referred to above in this Section 8(d) shall be deemed to include, for purposes of this Section 8(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating, preparing to defend or defending against or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding. Notwithstanding the provisions of this Section 8(d), the Placement Agent shall not be required to contribute any amount in excess of the total compensation received by the Placement Agent in accordance with Section 2.5 less the amount of any damages which the Placement Agent has otherwise paid or become liable to pay by reason of any untrue or alleged untrue statement, omission or alleged omission, act or alleged act or failure to act or alleged failure to act. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

9. *TERMINATION*. The obligations of the Placement Agent and the Purchasers hereunder and under the Subscription Agreements may be terminated by the Placement Agent, in its absolute discretion by notice given to the Company prior to delivery of and payment for the Units if, prior to that time, any of the events described in Sections 7(j), 7(k) and 7(l) have occurred or if all of the Purchasers shall decline to purchase the Units for any reason permitted under this Agreement or the Subscription Agreements.

10. *REIMBURSEMENT OF PLACEMENT AGENT'S EXPENSES*. Notwithstanding anything to the contrary in this Agreement, if (a) this Agreement shall have been terminated pursuant to Section 9, (b) the Company shall fail to tender the Units for delivery to the Purchasers for any reason not permitted under this Agreement, (c) all of the Purchasers shall decline to purchase the Units for any reason permitted under this Agreement or (d) the sale of the Units is not consummated because any condition to the obligations of the Purchasers or the Placement Agent set forth herein is not satisfied or because of the refusal, inability or failure on the part of the Company to perform any agreement herein or to satisfy any condition or to comply with the provisions hereof, then in addition to the payment of amounts in accordance with Section 6, the Company shall reimburse the Placement Agent for the reasonable fees and expenses of the Placement Agent's counsel and for such other out-of-pocket expenses as shall have been reasonably incurred by them in connection with this Agreement and the proposed purchase of the Units, not to exceed \$25,000 in the aggregate without the prior written consent of the Company, which consent shall not be unreasonably withheld, and upon demand the Company shall pay the full amount thereof to the Placement Agent.

11. *ABSENCE OF FIDUCIARY RELATIONSHIP*. The Company acknowledges and agrees that:

(a) the Placement Agent's responsibility to the Company is solely contractual in nature, the Placement Agent has been retained solely to act as Placement Agent in

connection with the Offering and no fiduciary, advisory or agency relationship between the Company and the Placement Agent has been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether the Placement Agent has advised or are advising the Company on other matters;

(b) the price of the Units set forth in this Agreement was established by the Company following discussions and arms-length negotiations with the Placement Agent, and the Company is capable of evaluating and understanding, and understands and accepts, the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) it has been advised that the Placement Agent and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Placement Agent has no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) it waives, to the fullest extent permitted by law, any claims it may have against the Placement Agent for breach of fiduciary duty or alleged breach of fiduciary duty and agrees that the Placement Agent shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

12. *SUCCESSORS; PERSONS ENTITLED TO BENEFIT OF AGREEMENT.* This Agreement shall inure to the benefit of and be binding upon the Placement Agent, the Company, and their respective successors and assigns. This Agreement shall also inure to the benefit of the Purchasers, and each of their respective successors and assigns, which shall be third party beneficiaries hereof. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, other than the persons mentioned in the preceding sentences, any legal or equitable right, remedy or claim under or in respect of this Agreement, or any provisions herein contained, this Agreement and all conditions and provisions hereof being intended to be and being for the sole and exclusive benefit of such persons and for the benefit of no other person; except that the representations, warranties, covenants, agreements and indemnities of the Company contained in this Agreement shall also be for the benefit of the Placement Agent Indemnified Parties and the indemnities of the Placement Agent shall be for the benefit of the Company Indemnified Parties. It is understood that the Placement Agent's responsibility to the Company is solely contractual in nature and the Placement Agent does not owe the Company, or any other party, any fiduciary duty as a result of this Agreement.

13. *SURVIVAL OF INDEMNITIES, REPRESENTATIONS, WARRANTIES, ETC.* The respective indemnities, covenants, agreements, representations, warranties and other statements of the Company and the Placement Agent, as set forth in this Agreement or made by them respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation made by or on behalf of the Placement Agent, the Company, the Purchasers or any person controlling any of them and shall survive delivery of and payment for the Units. Notwithstanding any termination of this Agreement, including without limitation any termination

pursuant to Sections 9 or 10, the indemnity and contribution agreements contained in Section 8 and the covenants, representations, warranties set forth in this Agreement shall not terminate and shall remain in full force and effect at all times.

14. *NOTICES*. All statements, requests, notices and agreements hereunder shall be in writing, and:

(a) if to the Placement Agent, shall be delivered or sent by mail, overnight courier or facsimile transmission to Oppenheimer & Co. Inc., 300 Madison Avenue, 4<sup>th</sup> Floor, New York, New York 10017, Attention: Stuart Barich, Fax: (212) 667-7256, with a copy, which shall not constitute notice, to Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., 666 Third Avenue, New York, New York 10017, Attention: Ivan K. Blumenthal, Esq., Fax: (212) 983-3115; and

(b) if to the Company, shall be delivered or sent by mail, overnight courier, or facsimile transmission to Arrowhead Research Corporation, 201 South Lake Avenue, Suite 703, Pasadena, California 91101 Attention: Chief Financial Officer, Fax: (626) 304-3401, with a copy, which shall not constitute notice, to Goodwin Procter LLP, 3 Embarcadero Center, 24<sup>th</sup> Floor, San Francisco, California 94111, Attention: Ryan Murr, Esq., Fax: (415) 677-9041.

*provided, however*, that any notice to the Placement Agent pursuant to Section 8 shall be delivered or sent by mail, telex or facsimile transmission to the Placement Agent at its address set forth in its acceptance telex to the Placement Agent, which address will be supplied to any other party hereto by the Placement Agent upon request. Any such statements, requests, notices or agreements shall take effect at the time of receipt thereof, except that any such statement, request, notice or agreement delivered or sent by email shall take effect at the time of confirmation of receipt thereof by the recipient thereof.

15. *DEFINITION OF CERTAIN TERMS*. For purposes of this Agreement, (a) “**business day**” means any day on which the New York Stock Exchange, Inc. is open for trading and (b) “**subsidiary**” has the meaning set forth in Rule 405 of the Rules and Regulations.

16. *GOVERNING LAW, AGENT FOR SERVICE AND JURISDICTION*. **This Agreement shall be governed by and construed in accordance with the laws of the State of New York, including without limitation Section 5-1401 of the New York General Obligations Law.** No legal proceeding may be commenced, prosecuted or continued in any court other than the courts of the State of New York located in the City and County of New York or in the United States District Court for the Southern District of New York, which courts shall have jurisdiction over the adjudication of such matters, and the Company and the Placement Agent each hereby consent to the jurisdiction of such courts and personal service with respect thereto. The Company and the Placement Agent each hereby consent to personal jurisdiction, service and venue in any court in which any legal proceeding arising out of or in any way relating to this Agreement is brought by any third party against the Company or the Placement Agent. The Company and the Placement Agent each hereby waive all right to trial by jury in any legal proceeding (whether based upon contract, tort or otherwise) in any way arising out of or relating to this Agreement. The Company agrees that a final judgment in any such legal proceeding brought in any such

court shall be conclusive and binding upon the Company and the Placement Agent and may be enforced in any other courts in the jurisdiction of which the Company is or may be subject, by suit upon such judgment.

17. *PLACEMENT AGENT'S INFORMATION.* The parties hereto acknowledge and agree that, for all purposes of this Agreement, the Placement Agent's Information consists solely of the following information in the Prospectus: (i) the fourth paragraph on the front cover page concerning the terms of the offering by the Placement Agent; and (ii) the statements concerning the Placement Agent contained in the first paragraph under the heading "Plan of Distribution."

18. *PARTIAL UNENFORCEABILITY.* The invalidity or unenforceability of any section, paragraph, clause or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph, clause or provision hereof. If any section, paragraph, clause or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

19. *GENERAL.* This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof, including, without limitation, the Engagement Letter. In this Agreement, the masculine, feminine and neuter genders and the singular and the plural include one another. The section headings in this Agreement are for the convenience of the parties only and will not affect the construction or interpretation of this Agreement. This Agreement may be amended or modified, and the observance of any term of this Agreement may be waived, only by a writing signed by the Company and the Placement Agent.

20. *COUNTERPARTS.* This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument and such signatures may be delivered by facsimile.

If the foregoing is in accordance with your understanding of the agreement between the Company and the Placement Agent, kindly indicate your acceptance in the space provided for that purpose below.

Very truly yours,

ARROWHEAD RESEARCH CORPORATION

By: /s/ Christopher Anzalone

Name: Christopher Anzalone

Title: Chief Executive Officer

Accepted as of the date  
first above written:

OPPENHEIMER & CO. INC.

By: /s/ Andrew MacInnes

Name: Andrew MacInnes

Title: Managing Director

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**SCHEDULE A**

**General Use Free Writing Prospectuses**

None.

## SUBSCRIPTION AGREEMENT

Arrowhead Research Corporation  
201 South Lake Avenue  
Suite 703  
Pasadena, CA 91101

Ladies and gentlemen:

The undersigned (the “**Investor**”) hereby confirms its agreement with you as follows:

1. This Subscription Agreement, including the Terms and Conditions For Purchase of Units attached hereto as Annex I (this “**Agreement**”), is made as of the date set forth below between Arrowhead Research Corporation, a Delaware corporation (the “**Company**”), and the Investor.

2. The Company has authorized the sale and issuance to certain investors of up to an aggregate of 8,500,000 units (the “**Units**”), each consisting of (i) one share (the “**Share**,” and collectively, the “**Shares**”) of its common stock, par value \$0.001 per share (the “**Common Stock**”), and (ii) one warrant (the “**Warrant**,” and collectively, the “**Warrants**”) to purchase 0.5 shares of Common Stock (and the fractional amount being the “**Warrant Ratio**”), in substantially the form attached hereto as Exhibit B, subject to adjustment by the Company’s Board of Directors, or a committee thereof, for a purchase price of \$1.312 per Unit (the “**Purchase Price**”). The Shares issuable upon exercise of the Warrants are referred to herein as the “**Warrant Shares**” and, together with the Units, the Shares and the Warrants, are referred to herein as the “**Securities**.”

3. The offering and sale of the Units (the “**Offering**”) are being made pursuant to (1) an effective Registration Statement on Form S-3 (including the prospectus contained therein (the “**Base Prospectus**”), the “**Registration Statement**”) filed by the Company with the Securities and Exchange Commission (the “**Commission**”), (2) if applicable, certain “free writing prospectuses” (as that term is defined in Rule 405 under the Securities Act of 1933, as amended (the “**Act**”), that have been or will be filed with the Commission and delivered to the Investor on or prior to the date hereof and (3) a Prospectus Supplement (the “**Prospectus Supplement**” and together with the Base Prospectus, the “**Prospectus**”) containing certain supplemental information regarding the Securities and terms of the Offering that will be filed with the Commission and delivered to the Investor (or made available to the Investor by the filing by the Company of an electronic version thereof with the Commission).

4. The Company and the Investor agree that the Investor will purchase from the Company and the Company will issue and sell to the Investor the Units set forth below for the aggregate purchase price set forth below. The Units shall be purchased pursuant to the Terms and Conditions for Purchase of Units attached hereto as Annex I and incorporated herein by this reference as if fully set forth herein. The Investor acknowledges that the Offering is not being underwritten by the placement agent (the “**Placement Agent**”) named in the Prospectus Supplement and that there is no minimum offering amount.

5. The manner of settlement of the Shares included in the Units purchased by the Investor shall be determined by such Investor by delivery versus payment (“**DVP**”) through The Depository Trust Company (“**DTC**”) or through DTC Deposit/Withdrawal at Custodian (“**DWAC**”) (i.e., the Company shall issue Shares registered in the Investor’s name and address as set forth below and released by Computershare Investor Services, the Company’s transfer agent (the “**Transfer Agent**”) to the Investor through DTC or DWAC at the Closing directly to the account(s) at Oppenheimer & Co. Inc. (“**Oppenheimer**”) identified by the Investor and simultaneously therewith payment shall be made to the Company). **NO LATER THAN ONE (1) BUSINESS DAY AFTER THE EXECUTION OF THIS AGREEMENT BY THE INVESTOR AND THE COMPANY, THE INVESTOR SHALL NOTIFY OPPENHEIMER OF THE ACCOUNT OR**

ACCOUNTS AT OPPENHEIMER TO BE CREDITED WITH THE SHARES BEING PURCHASED BY SUCH INVESTOR.

IT IS THE INVESTOR'S RESPONSIBILITY TO (A) MAKE THE NECESSARY WIRE TRANSFER OR CONFIRM THE PROPER ACCOUNT BALANCE IN A TIMELY MANNER AND (B) ARRANGE FOR SETTLEMENT BY WAY OF THE DEPOSIT/WITHDRAWAL AT CUSTODIAN ("DWAC") SYSTEM OR DVP IN A TIMELY MANNER. IF THE INVESTOR DOES NOT DELIVER THE AGGREGATE PURCHASE PRICE FOR THE UNITS OR DOES NOT MAKE PROPER ARRANGEMENTS FOR SETTLEMENT IN A TIMELY MANNER, THE SHARES AND WARRANTS MAY NOT BE DELIVERED AT CLOSING TO THE INVESTOR OR THE INVESTOR MAY BE EXCLUDED FROM THE OFFERING ALTOGETHER.

6. The executed Warrant shall be delivered in accordance with the terms thereof.

7. The Investor represents that, except as set forth below, (a) it has had no position, office or other material relationship within the past three years with the Company or persons known to it to be affiliates of the Company, (b) it is not a FINRA member or an Associated Person (as such term is defined under the FINRA Membership and Registration Rules Section 1011) as of the Closing, and (c) neither the Investor nor any group of Investors (as identified in a public filing made with the Commission) of which the Investor is a part in connection with the Offering, acquired, or obtained the right to acquire, 20% or more of the Common Stock (or securities convertible into or exercisable for Common Stock) or the voting power of the Company on a post-transaction basis. Exceptions:

\_\_\_\_\_  
(If no exceptions, write "none." If left blank, response will be deemed to be "none.")

8. The Investor represents that it has received (or otherwise had made available to it by the filing by the Company of an electronic version thereof with the Commission) the Base Prospectus, as filed with the Commission on June 1, 2010, which is a part of the Company's Registration Statement, the documents incorporated by reference therein and any free writing prospectus (collectively, the "**Disclosure Package**"), prior to or in connection with the receipt of this Agreement. The Investor acknowledges that, prior to the delivery of this Agreement to the Company, the Investor will receive certain additional information regarding the Offering, including pricing information (the "**Offering Information**"). Such information may be provided to the Investor by any means permitted under the Act, including the Prospectus Supplement, a free writing prospectus or oral communications.

9. No offer by the Investor to buy Units will be accepted and no part of the Purchase Price will be delivered to the Company until the Investor has received the Offering Information and the Company has accepted such offer by countersigning a copy of this Agreement, and any such offer may be withdrawn or revoked, without obligation or commitment of any kind, at any time prior to the Company (or the Placement Agent on behalf of the Company) sending (orally, in writing or by electronic mail) notice of its acceptance of such offer. An indication of interest will involve no obligation or commitment of any kind until the Investor has been delivered the Offering Information and this Agreement is accepted and countersigned by or on behalf of the Company.

Number of Units: \_\_\_\_\_

Purchase Price Per Unit: \$1.312

Aggregate Purchase Price: \$ \_\_\_\_\_

Please confirm that the foregoing correctly sets forth the agreement between us by signing in the space provided below for that purpose.

Dated as of: June 17, 2010

\_\_\_\_\_  
INVESTOR

By: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Agreed and Accepted  
this 17th day of June, 2010:

ARROWHEAD RESEARCH CORPORATION

By: \_\_\_\_\_

Name:

Title:

## ANNEX I

### TERMS AND CONDITIONS FOR PURCHASE OF UNITS

**1. Authorization and Sale of the Units.** Subject to the terms and conditions of this Agreement, the Company has authorized the sale of the Units.

**2. Agreement to Sell and Purchase the Units; Placement Agent.**

**2.1** At the Closing (as defined in Section 3.1), the Company will sell to the Investor, and the Investor will purchase from the Company, upon the terms and conditions set forth herein, the number of Units set forth on the last page of the Agreement to which these Terms and Conditions for Purchase of Units are attached as Annex I (the “**Signature Page**”) for the aggregate purchase price therefor set forth on the Signature Page.

**2.2** The Company proposes to enter into substantially this same form of Subscription Agreement with certain other investors (the “**Other Investors**”) and expects to complete sales of Units to them. The Investor and the Other Investors are hereinafter sometimes collectively referred to as the “**Investors**,” and this Agreement and the Subscription Agreements executed by the Other Investors are hereinafter sometimes collectively referred to as the “**Agreements**.”

**2.3** Investor acknowledges that the Company has agreed to pay Oppenheimer & Co. Inc. (the “**Placement Agent**”) a fee (the “**Placement Fee**”) in respect of the sale of Units to the Investor.

**2.4** The Company has entered into a Placement Agent Agreement, dated June 17, 2010, (the “**Placement Agreement**”), with the Placement Agent that contains certain representations, warranties, covenants and agreements of the Company, including the indemnification provisions as if the Investor were a Placement Agent Indemnified Party (as defined in the Placement Agreement) that may be relied upon by the Investor, which shall be a third party beneficiary thereof. The Company represents and warrants that a true and correct copy of the Placement Agreement is attached hereto as Exhibit C and the Company confirms that all references in the Placement Agreement to “Purchasers” shall include the Investor and Other Investors. The Company shall promptly notify the Investor of any proposed material amendment or modification to Section 3 (Representations and Warranties of the Company), Section 5 (Further Agreements of the Company), Section 7 (Conditions to the Obligations of the Placement Agent and the Purchasers, and the Sale of the Units), Section 9 (Termination), Section 12 (Successors; Persons Entitled to Benefit of Agreement) and Section 13 (Survival of Indemnities, Representations, Warranties, etc.) of the Placement Agreement, which shall require the prior written consent of the Investor.

**2.5** The Company acknowledges that the only material, non-public information relating to the Company or its subsidiaries that the Company, its employees or agents has provided to the Investor in connection with the Offering prior to the date hereof is the existence of the Offering and the Offering Information. The Company confirms that neither it nor any other Person acting on its behalf has provided the Investor or their agents or counsel with any information, other than information relating to the Offering, that constitutes or could reasonably be expected to constitute material, nonpublic information, except as will be disclosed in the Prospectus and the Company’s Press Release (as defined below) issued in connection with the Offering. The Company understands and confirms that the Investor will rely on the foregoing representations in effecting transactions in securities of the Company.

**3. Closings and Delivery of the Units and Funds.**

**3.1 Closing.** The completion of the purchase and sale of the Units (the “**Closing**”) shall occur at a place and time (the “**Closing Date**”) to be specified by the Company and the Placement Agent, and in any event

no later than three (3) Trading Days (as defined below) after the date hereof, and of which the Investors will be notified in advance by the Placement Agent, in accordance with Rule 15c6-1 promulgated under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”). At the Closing, (a) the Company shall cause the Transfer Agent to deliver to the Investor the number of Shares set forth on the Signature Page registered in the name of the Investor or, if so indicated on the Investor Questionnaire attached hereto as Exhibit A, in the name of a nominee designated by the Investor, (b) the Company shall cause to be delivered to the Investor a Warrant to purchase a number of whole Warrant Shares determined by multiplying the number of Shares (and Units) set forth on the signature page by the Warrant Ratio and rounding down to the nearest whole number and (c) the aggregate purchase price for the Units being purchased by the Investor will be delivered by or on behalf of the Investor to the Company. “**Trading Day**” shall mean (a) any day on which the Common Stock is listed or quoted and traded on its primary Trading Market, (b) if the Common Stock is not then listed or quoted and traded on any Eligible Market, then a day on which trading occurs on the OTC Bulletin Board (or any successor thereto), or (c) if trading does not occur on the OTC Bulletin Board (or any successor thereto), any business day. “**Trading Market**” shall mean the NASDAQ Capital Market or any other Eligible Market, or any national securities exchange, market or trading or quotation facility on which the Common Stock is then listed or quoted. “**Eligible Market**” means any of the New York Stock Exchange, the NYSE Amex, The NASDAQ Global Market, The NASDAQ Global Select Market or The NASDAQ Capital Market.

**3.2 Conditions to the Company’s Obligations.** (a) The Company’s obligation to issue and sell the Units to the Investor shall be subject to: (i) the receipt by the Company of the purchase price for the Units being purchased hereunder as set forth on the Signature Page and (ii) the accuracy of the representations and warranties made by the Investor and the fulfillment of those undertakings of the Investor to be fulfilled prior to the Closing Date.

(b) **Conditions to the Investor’s Obligations.** The Investor’s obligation to purchase the Units will be subject to (i) the delivery by the Company of the Units in accordance with the provisions of this Agreement, (ii) the accuracy of the representations and warranties made by the Company and the fulfillment of those undertakings of the Company to be fulfilled prior to the Closing Date, including without limitation, those contained in the Placement Agreement, and (iii) the condition that the Placement Agent shall not have: (x) terminated the Placement Agreement pursuant to the terms thereof or (y) determined that the conditions to the closing in the Placement Agreement have not been satisfied. The Investor’s obligations are expressly not conditioned on the purchase by any or all of the Other Investors of the Units that they have agreed to purchase from the Company. The Investor understands and agrees that, in the event that the Placement Agent in its sole discretion determines that the conditions to closing in the Placement Agreement have not been satisfied or if the Placement Agreement may be terminated for any other reason permitted by such Agreement, then the Placement Agent may, but shall not be obligated to, terminate such Placement Agreement, which shall have the effect of terminating this Subscription Agreement pursuant to Section 14 below.

### **3.3 Delivery of Funds.**

(a) **DWAC Delivery.** If the Investor elects to settle the Shares purchased by such Investor through DTC’s Deposit/Withdrawal at Custodian (“DWAC”) delivery system, at the Closing, the Investor shall remit by wire transfer the amount of funds equal to the aggregate purchase price for the Units being purchased by the Investor to an account designated by the Company and the Placement Agent at least one Trading Day prior to the Closing.

(b) **Delivery Versus Payment through The Depository Trust Company.** If the Investor elects to settle the Shares purchased by such Investor by delivery versus payment through DTC, at the Closing, the Investor shall confirm that the account or accounts to be credited with the Units being purchased by the Investor have a minimum balance equal to the aggregate purchase price for the Units being purchased by the Investor.

### 3.4 Delivery of Shares.

(a) DWAC Delivery. If the Investor elects to settle the Shares purchased by such Investor through DTC's DWAC delivery system, at the Closing, the Investor shall direct the broker-dealer at which the account or accounts to be credited with the Shares being purchased by such Investor are maintained, which broker/dealer shall be a DTC participant, to set up a DWAC instructing the Transfer Agent to credit such account or accounts with the Shares. Such DWAC instruction shall indicate the settlement date for the deposit of the Shares, which date shall be provided to the Investor by the Placement Agent. Simultaneously with the delivery to the Company of the funds pursuant to Section 3.3 above, the Company shall direct the Transfer Agent to credit the Investor's account or accounts with the Shares pursuant to the information contained in the DWAC.

(b) Delivery Versus Payment through The Depository Trust Company. If the Investor elects to settle the Shares purchased by such Investor by delivery versus payment through DTC, at the Closing, the Investor shall notify the Placement Agent of the account or accounts at the Placement Agent to be credited with the Shares being purchased by such Investor. On the Closing Date, the Company shall deliver the Shares to the Investor through DTC directly to the account(s) at the Placement Agent identified by the Investor.

#### 4. Representations, Warranties and Covenants of the Investor.

The Investor acknowledges, represents and warrants to, and agrees with, the Company and the Placement Agent that:

**4.1** The Investor (a) is knowledgeable, sophisticated and experienced in making, and is qualified to make decisions with respect to, investments in shares presenting an investment decision like that involved in the purchase of the Units, including investments in securities issued by the Company and investments in comparable companies, (b) has answered all questions on the Signature Page and the Investor Questionnaire and the answers thereto are true and correct as of the date hereof and will be true and correct as of the Closing Date and (c) in connection with its decision to purchase the number of Units set forth on the Signature Page, has received and is relying only upon the Disclosure Package, the documents incorporated by reference therein and the representations and warranties contained in this Agreement and the Placement Agreement.

**4.2** (a) No action has been or will be taken in any jurisdiction outside the United States by the Company or the Placement Agent that would permit an offering of the Units, or possession or distribution of offering materials in connection with the issue of the Securities in any jurisdiction outside the United States where action for that purpose is required, (b) if the Investor is outside the United States, it will comply with all applicable laws and regulations in each foreign jurisdiction in which it purchases, offers, sells or delivers Securities or has in its possession or distributes any offering material, in all cases at its own expense and (c) the Placement Agent is not authorized to make and has not made any representation, disclosure or use of any information in connection with the issue, placement, purchase and sale of the Units, except as set forth or incorporated by reference in the Base Prospectus or the Prospectus Supplement.

**4.3** (a) The Investor has full right, power, authority and capacity to enter into this Agreement and to consummate the transactions contemplated hereby and has taken all necessary action to authorize the execution, delivery and performance of this Agreement, and (b) this Agreement constitutes a valid and binding obligation of the Investor enforceable against the Investor in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' and contracting parties' rights generally and except as enforceability may be subject to general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law) and except as to the enforceability of any rights to indemnification or contribution that may be violative

of the public policy underlying any law, rule or regulation (including any federal or state securities law, rule or regulation).

**4.4** The Investor understands that nothing in this Agreement, the Prospectus or any other materials presented to the Investor in connection with the purchase and sale of the Units constitutes legal, tax or investment advice. The Investor has consulted such legal, tax and investment advisors as it, in its sole discretion, has deemed necessary or appropriate in connection with its purchase of Units.

**4.5** Since the date on which the Placement Agent first contacted such Investor about the Offering, the Investor has not engaged in any purchases or sales of the securities of the Company (including, without limitation, any Short Sales involving the Company's securities, but not including the location and/or reservation of borrowable shares of Common Stock). Each Investor covenants that it will not engage in any transactions in the securities of the Company (including Short Sales, but not including the location and/or reservation of borrowable shares of Common Stock) prior to the time that the transactions contemplated by this Agreement are publicly disclosed. The Investor agrees that it will not use any of the Securities acquired pursuant to this Agreement to cover any short position in the Common Stock if doing so would be in violation of applicable securities laws. For purposes hereof, "**Short Sales**" include, without limitation, all "short sales" as defined in Rule 200 promulgated under Regulation SHO under the Exchange Act, whether or not against the box, and all types of direct and indirect stock pledges, forward sales contracts, options, puts, calls, short sales, swaps, "put equivalent positions" (as defined in Rule 16a-1(h) under the Exchange Act) and similar arrangements (including on a total return basis), and sales and other transactions through non-U.S. broker dealers or foreign regulated brokers.

**5. Survival of Representations, Warranties and Agreements; Third Party Beneficiary.** Notwithstanding any investigation made by any party to this Agreement or by the Placement Agent, all covenants, agreements, representations and warranties made by the Company and the Investor herein will survive the execution of this Agreement, the delivery to the Investor of the Units being purchased and the payment therefor. The Placement Agent shall be a third party beneficiary with respect to the representations, warranties and agreements of the Investor in Section 4 hereof.

**6. Notices.** All notices, requests, consents and other communications hereunder will be in writing, will be mailed (a) if within the domestic United States by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, or by facsimile or (b) if delivered from outside the United States, by International Federal Express or facsimile, and will be deemed given (i) if delivered by first-class registered or certified mail domestic, three business days after so mailed, (ii) if delivered by nationally recognized overnight carrier, one business day after so mailed, (iii) if delivered by International Federal Express, two business days after so mailed and (iv) if delivered by facsimile, upon electric confirmation of receipt and will be delivered and addressed as follows:

(a) if to the Company, to:

Arrowhead Research Corporation  
201 South Lake Avenue  
Suite 703  
Pasadena, CA 91101  
Attention: Chief Financial Officer  
Facsimile: (626) 304-3401  
with a copy (which shall not constitute notice) to:

Goodwin Procter, LLP  
3 Embarcadero Center, 24<sup>th</sup> Floor  
San Francisco, CA 94111  
Attention: Ryan Murr, Esq.  
Facsimile: (415) 677-9041

(b) if to the Investor, at its address on the Signature Page hereto, or at such other address or addresses as may have been furnished to the Company in writing.

**7. Changes.** This Agreement may not be modified or amended except pursuant to an instrument in writing signed by the Company and the Investor.

**8. Headings.** The headings of the various sections of this Agreement have been inserted for convenience of reference only and will not be deemed to be part of this Agreement.

**9. Severability.** In case any provision contained in this Agreement should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions contained herein will not in any way be affected or impaired thereby.

**10. Governing Law.** This Agreement will be governed by, and construed in accordance with, the internal laws of the State of New York, without giving effect to the principles of conflicts of law that would require the application of the laws of any other jurisdiction.

**11. Counterparts.** This Agreement may be executed in two or more counterparts, each of which will constitute an original, but all of which, when taken together, will constitute but one instrument, and will become effective when one or more counterparts have been signed by each party hereto and delivered to the other parties. The Company and the Investor acknowledge and agree that the Company shall deliver its counterpart to the Investor along with the Prospectus Supplement (or the filing by the Company of an electronic version thereof with the Commission).

**12. Confirmation of Sale.** The Investor acknowledges and agrees that such Investor's receipt of the Company's signed counterpart to this Agreement, together with the Prospectus Supplement (or the filing by the Company of an electronic version thereof with the Commission), shall constitute written confirmation of the Company's agreement to sell the Units to such Investor.

**13. Press Release and Form 8-K.** The Company and the Investor agree that the Company shall (a) no later than 8:30 am New York City time on the business day immediately following the execution of this Agreement, issue a press release announcing the material terms and conditions of the Offering prior to the opening of the financial markets in New York City and (b) on the business day immediately following the date hereof, file a current report on Form 8-K with the Securities and Exchange Commission including, but not limited to, a form of this Agreement as an exhibit thereto. From and after the issuance of such press release, the Company shall have publicly disclosed all material, non-public information delivered to the Investor by the Company, if any, or any of its officers or directors in connection with the transactions contemplated hereby. The Company shall not identify any Investor by name in any press release without such Investor's prior written consent.

**14. Lock-Up.** The Company agrees that it will not, for a period of ninety (90) days from the date of the Prospectus, (the "**Lock-Up Period**") without the prior written consent of the Investor, directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, other than (i) the Company's sale of the Units in the Offering, (ii) the issuance of Common Stock or options to acquire Common Stock pursuant to the Company's employee benefit plans, qualified stock option plans or other employee compensation plans as such plans are in existence on the date hereof and described in the Prospectus, (iii) the issuance of Common Stock pursuant to the valid exercises of options, warrants or rights outstanding on the date hereof, and (iv) the issuance of Common Stock in connection with one or more strategic acquisitions accomplished by a stock for

stock exchange on an arm's-length basis, the purpose of which is not to raise additional capital for the Company or its subsidiaries that are controlled directly or indirectly by the Company. The Company will cause each executive officer and director listed in Schedule B to the Placement Agreement to furnish to the Placement Agent, prior to the Closing Date, a letter pursuant to which each such person shall agree, among other things, not to directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, not to engage in any swap or other agreement or arrangement that transfers, in whole or in part, directly or indirectly, the economic risk of ownership of Common Stock or any such securities and not to engage in any short selling of any Common Stock or any such securities, during the Lock-Up Period, without the prior written consent of the Placement Agent. The Company also agrees that during the Lock-Up Period, the Company will not file any registration statement, preliminary prospectus or prospectus, or any amendment or supplement thereto, under the Act for any such transaction or which registers, or offers for sale, Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, except for a registration statement on Form S-8 relating to employee benefit plans.

**15. Termination.** In the event that the Placement Agreement is terminated by the Placement Agent pursuant to the terms thereof, this Agreement shall terminate without any further action on the part of the parties hereto.

**16. Fee Reimbursement.** [The Company shall reimburse the Holder or its designee(s) for all reasonable legal costs and expenses incurred in connection with the transactions contemplated by this Agreement, which shall not exceed \$20,000 in the aggregate. Notwithstanding anything to the contrary contained herein, such amount may be withheld by the Holder from its Purchase Price at the Closing.]. The Company shall be responsible for the payment of any placement agent's fees, financial advisory fees, or broker's commissions (other than for Persons engaged by the Holder) relating to or arising out of the transactions contemplated hereby, including, without limitation, any fees or commissions payable to the Placement Agent.

**EXHIBIT A**

**ARROWHEAD RESEARCH CORPORATION  
INVESTOR QUESTIONNAIRE**

Pursuant to Section 3 of Annex I to the Agreement, please provide us with the following information:

1. The exact name that your Shares and Warrants are to be registered in. You may use a nominee name if appropriate: \_\_\_\_\_
2. The relationship between the Investor and the registered holder listed in response to item 1 above: \_\_\_\_\_
3. The mailing address of the registered holder listed in response to item 1 above: \_\_\_\_\_
4. The Social Security Number or Tax Identification Number of the registered holder listed in the response to item 1 above: \_\_\_\_\_
5. Name of DTC Participant (broker-dealer at which the account or accounts to be credited with the Shares are maintained): \_\_\_\_\_
6. DTC Participant Number: \_\_\_\_\_
7. Name of Account at DTC Participant being credited with the Shares: \_\_\_\_\_
8. Account Number at DTC Participant being credited with the Shares: \_\_\_\_\_

**EXHIBIT B**

**FORM OF WARRANT**

EXHIBIT C

PLACEMENT AGENT AGREEMENT