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April 22, 2015

VIA EDGAR

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549
Attention: Jeffrey P. Riedler

**Re: Arrowhead Research Corporation
Form 10-K for the Fiscal Year Ended September 30, 2014
Filed November 25, 2014
File No. 000-21898**

Dear Mr. Riedler:

Arrowhead Research Corporation (the "Company") is in receipt of the April 15, 2015 comment letter from the Staff of the Division of Corporation Finance (the "Staff") of the Securities and Exchange Commission (the "Commission") regarding the Company's Annual Report on Form 10-K for the year ended September 30, 2014 (the "Annual Report"). Below are the Company's responses to the comment of the Staff. For your convenience, this letter is formatted to reproduce the Staff's sole outstanding comment in bold italicized text.

- 1. We note your responses to our prior comments 1 and 3, including your determination that the company is not substantially dependent on either the Cerulean agreement or the license agreement with the Board of Regents of the University of Texas System. With respect to each agreement, please provide a reasonably detailed analysis in support of this conclusion.***

With respect to the Company's license agreements with Cerulean Pharmaceuticals, Inc. (the "Cerulean Agreement") and the Board of Regents of the University of Texas System (the "University of Texas Agreement"), the Company evaluated these agreements, determined that each was a contract "such as ordinarily accompanies the kind of business conducted by the registrant," pursuant to Item 601(b)(10)(ii), and concluded further that none of the exceptions in Item 601(b)(10)(ii)(A)-(D) applied.

In particular, pursuant to subsection (B) of the foregoing, the Company determined that it is substantially dependent on neither the Cerulean Agreement nor the University of Texas

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Agreement. In accordance with the terms of subsection (B), neither agreement is a continuing contract to sell the major part of the Company's products or services or to purchase the major part of the Company's requirements of goods, services or raw materials. Moreover, neither agreement is a license to use a patent, formula, trade secret, process or trade name upon which the Company's business depends to a material extent.

As described in the Annual Report, the Company's subsidiary, Calando Pharmaceuticals, received an initial payment of \$2.4 million upon Calando's entry into the Cerulean Agreement in June 2009. However, since that time, neither Calando nor the Company has received any additional payments pursuant to the Cerulean Agreement. As described in the Annual Report, the Company (indirectly through Calando) "may receive . . . milestones and royalty payments if" Cerulean successfully develops products, and is "entitled" to receive a share of sublicensing income "[s]hould" Cerulean sublicense the relevant candidate. Therefore, although there have been historical revenues associated with the Cerulean Agreement from approximately six years ago, any potential future revenues associated with the Cerulean Agreement are uncertain and indeterminate. Because any future revenues associated with this agreement are merely prospective the Company's business is not substantially dependent on the Cerulean Agreement.

Moreover, the Company notes that Calando is being liquidated in a bankruptcy proceeding under Chapter 7 of the United States Bankruptcy Code (as disclosed in Note 6 to the consolidated financial statements included in the Annual Report). The Company has fully deconsolidated Calando from its financial statements as a result of the bankruptcy proceeding. Subsequent to the filing of the Annual Report the Company determined that it was unlikely to receive any return on capital as an equity holder in Calando even if Cerulean was successful and made further payments under the Cerulean Agreement. Thus, the pending liquidation proceeding further cements the Company's conclusion that it cannot be substantially dependent on this license agreement.

With respect to the technology licensed under the University of Texas Agreement, this relates to a program that is currently in a Phase 1 clinical study. As a result of the early stage of this program, the Company has received no revenue from the program and has no expectation of receiving any revenue (whether from a licensing partner or from commercial sales) for the foreseeable future. Given the inherently uncertain prospects of this program, the lack of historical revenue and the lack of the prospect for any near-term revenue or partnership, the Company has not designated this program as one of its "lead" product candidates, which were identified in the Annual Report under Part I, Item I as ARC-520 and ARC-AAT.

In short, neither agreement has represented any meaningful revenue for the Company, nor does either agreement relate to a program that has the prospect to generate meaningful revenue

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or value for the Company in the foreseeable future. Accordingly, the Company respectfully submits that it is not substantially dependent on either agreement, as contemplated in Item 601(b)(10) of Regulation S-K.

* * *

In responding to the Staff's comments, the Company acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- Staff comments or changes to disclosure in response to Staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

We appreciate the opportunity to respond to the Staff's comments.

Very truly yours,

/s/ Ryan Murr

Ryan Murr
of GIBSON, DUNN & CRUTCHER LLP

cc: Christopher Anzalone, Arrowhead Research Corporation