

March 27, 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 above-captioned 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 comments of the Staff. For your convenience, this letter is formatted to reproduce your numbered comments in bold italicized text.

- 1. We note that you previously filed your license agreement with Cerulean Pharmaceuticals, Inc. However, the agreement is not included as an exhibit to your current annual report. Please include the agreement as an exhibit or, in the alternative, please provide us with your legal analysis supporting your conclusion that it no longer need be filed pursuant to Item 601(b)(10) of Regulation S-K.***

The Company regularly reviews the material contracts required to be filed as exhibits to periodic reports under Item 601(b)(10) of Regulation S-K. As part of this review, the Company assesses whether there are new material contracts that should be filed, and whether previously filed agreements should be removed from the exhibit list due to changes in the Company’s determination of materiality, expiration of an agreement, or for other reasons.

With respect to the Company’s license agreement with Cerulean Pharmaceuticals, the Company determined in connection with the filing of the Annual Report that it was not necessary

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to file this agreement as an exhibit, as it is deemed to have been entered into in the ordinary course of the Company's business. This determination was based on the guidance set forth in Item 601(b)(10)(ii) of Regulation S-K, which states in relevant part:

"If the contract is such as ordinarily accompanies the kind of business conducted by the registrant and its subsidiaries, it will be deemed to have been made in the ordinary course of business and need not be filed unless it falls within one or more of the following categories, in which case it shall be filed except where immaterial in amount or significance."

Because the Cerulean agreement is a license of intellectual property rights, and the Company's business principally relates to the discovery and development of novel drug therapies, the Company believes that this license is the type of agreement that ordinarily accompanies its business. To that end, we note that all three of the Staff's comments relate intellectual property license agreements. Thus, the Cerulean agreement would be deemed to have been entered into in the ordinary course.

The Company also assessed whether any of the exceptions set forth in Item 601(b)(10)(ii)(A)-(D) applied and determined that they did not. More specifically, the Company determined that it was not (and had never been) substantially dependent on the Cerulean license agreement. As a result, the Company respectfully submits that it is not required to file the agreement as an exhibit to the Annual Report.

- 2. Please revise your disclosure to describe all of the material terms of your research collaboration and license agreement with Shire AG including its duration, termination provisions, material obligations that must be met to keep the agreement in place, and royalty payments. Please also file the agreement as an exhibit pursuant to Item 601(b)(10) of Regulation S-K.***

The Company's agreement with Shire appears in the Annual Report under the broader heading of *Partner-based Pipeline*, which is a list of programs that the Company has licensed out to third parties where the development of the program is then dependent on the licensee's development efforts and activities. Although the Company has the potential to receive milestone payments and royalties under this agreement, the Company does not view this contract as material, but instead as an example of the type of out-license transactions that the Company has pursued, and may continue to pursue, in order to utilize its broad intellectual property rights. To date, the Company has received only \$100,000 under this agreement. Given that the future potential payments are entirely dependent on the success of Shire's efforts, and the Company has no substantive insight into either the level of effort that is being expended, or the likelihood of success that this program may achieve, the Company does not consider the potential downstream

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payments to be material at the present time. For that reason, the Company respectfully submits that it should not be necessary to provide a detailed description of the agreement in the Annual Report.

Likewise, for the reasons stated above in response to Comment No. 1 regarding the lack of need to file a license agreement where the Company is not substantially dependent on such agreement, the Company respectfully submits that it is not necessary to file the Shire agreement as an exhibit to the Annual Report under Item 601(b)(10) of Regulation S-K.

3. ***We note that you previously filed your license agreement with the Board of Regents of the University of Texas System. However, the agreement is not included as an exhibit to your current annual report. Please include the agreement as an exhibit or, in the alternative, please provide us with your legal analysis supporting your conclusion that it no longer need be filed pursuant to Item 601(b)(10) of Regulation S-K.***

As part of the regular review of material contracts and exhibits in the Annual Report described above in response to Comment No. 1, the Company determined that: (i) the license agreement with the Board of Regents of the University of Texas System was the type of agreement that ordinarily accompanies the kind of business conducted by the Company (i.e., the in-license of certain intellectual property rights); and (ii) the Company was not substantially dependent on this agreement. Accordingly, the Company determined in accordance with Item 601(b)(10)(ii) that this agreement should be deemed entered into the ordinary course of business and thus need not be filed as an exhibit to the Annual Report.

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.

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Very truly yours,

/s/ Ryan Murr

Ryan Murr
of GIBSON, DUNN & CRUTCHER LLP

cc: Christopher Anzalone, Arrowhead Research Corporation