

November 23, 2016

Via EDGAR

Suzanne Hayes  
Assistant Director  
Office of Healthcare and Insurance  
Division of Corporation Finance  
U.S. Securities and Exchange Commission  
100 F Street, NE  
Washington, D.C. 20549-3628

Re: Arrowhead Pharmaceuticals, Inc.  
Registration Statement on Form S-3  
Filed October 28, 2016  
File No. 333-214315

Dear Ms. Hayes:

On behalf of our client, Arrowhead Pharmaceuticals, Inc. (“Arrowhead”), set forth below is Arrowhead’s response to comments of the staff (the “Staff”) of the U.S. Securities and Exchange Commission (the “Commission”) contained in the comment letter, dated November 14, 2016 (the “Comment Letter”), with respect to the above referenced Registration Statement on Form S-3 (as amended, the “S-3”). On the date hereof, Arrowhead has filed Amendment No. 1 to the S-3, incorporating the changes described herein.

Exhibit Index

1. *We note your indication that you may file Exhibit 25.1 as an exhibit to a report filed under the Exchange Act to be incorporated by reference to this registration statement or to a post-effective amendment to the registration statement. Please note that you must separately file the Form T-1 under the electronic form type “305B2” and not in a post-effective amendment or in a Form 8-K. Please refer to Question 206.01 of the Trust Indenture Act of 1939 Compliance and Disclosure Interpretations, available at <http://www.sec.gov/divisions/corpfin/guidance/tiinterp.htm>. Please revise your exhibit index accordingly.*

Response:

Arrowhead confirms that it intends to file the Form T-1 separately under the electronic form type “305B2” in accordance with Section 305(B)(2) of the Trust Indenture Act of 1939, as amended, and the Staff’s response to Question 206.01 of the Trust Indenture Act of 1939 Compliance and Disclosure Interpretations. The Company has revised the Exhibit Index to the S-3 to include the following footnote with respect to Exhibit 25.1:

“To be filed, if necessary, separately under electronic form type ‘305B2’ in accordance with Section 305(b)(2) of the Trust Indenture Act of 1939, as amended.”

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If we can be of any further assistance, or if you have any questions regarding the concerns detailed in this letter, please do not hesitate to call me at (415) 393-8375.

Sincerely,

/s/ Ryan A. Murr

Ryan A. Murr

cc: Christopher Anzalone  
Chief Executive Officer  
Arrowhead Pharmaceuticals, Inc..