

Via Facsimile and U.S. Mail
Mail Stop 4720

December 16, 2009

Richard Love
Chairman of the Board
ImaRx Therapeutics, Inc.
12277 134th Court NE, Suite 202
Redmond, WA 98052

Re: ImaRx Therapeutics, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2008
Form 10-Q for the Quarterly Period Ended March 31, 2009
Form 10-Q for the Quarterly Period Ended June 30, 2009
Form 10-Q for the Quarterly Period Ended September 30, 2009
File Number: 001-33043

Dear Mr. Love:

We have reviewed your filings and have the following comment. We have limited our review to your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise your documents in response to this comment. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comment or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Exhibits 31.1 and 31.2

1. Please revise your Principal Executive Officer and Principal Financial Officer certifications to include the introductory language of paragraph 4 and the language of paragraph 4(b) of Item 601(b)(31) of Regulation S-K.

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As appropriate, please amend your Form 10-K for the year ended December 31, 2008 and Form 10-Qs for the quarterly periods ended March 31, 2009, June 30, 2009 and September 30, 2009 and respond to this comment within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your amendments that keys your response to our comment and provides any requested information. Detailed cover letters greatly facilitate our review. Please furnish the letter on EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your amendments and response to our comment.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings include all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comment, please provide, in your letter, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filings or in response to our comments on your filings.

You may contact Vanessa Robertson, Staff Accountant, at (202) 551-3649 or Mary Mast, Senior Staff Accountant, at (202) 551-3613 if you have any questions regarding the comment. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief
Accountant