

Mail Stop 6010

June 25, 2007

Bradford A. Zakes
Chief Executive Officer
ImaRx Therapeutics, Inc.
1635 East 18th Street
Tucson, AZ 85719

**Re: ImaRx Therapeutics, Inc.
Registration Statement on Form S-1, Amendment 1
Filed June 12, 2007
File No. 333- 142646**

Dear Mr. Zakes:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. 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. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

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 comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

FORM S-1

Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview, page 38

1. Please revise the disclosures you added throughout your filing in response to our previous comment 32 to clarify how much of your inventory is labeled for expiration. In this regard, please specifically disclose how much of the 64% of inventory you expect to sell with scheduled expiration by October 2007 is

currently labeled for sale. In addition, on page 39 you disclose that you sold \$9.0 million of Abbokinase in April 2007 with expiration dates ranging from December 2008 to August 2009. Please revise your disclosure in MD&A to clearly explain why you did not include any of the inventory expected to expire by October 2007 in your April 2007 sales.

Critical Accounting Policies and Significant Judgments and Estimates

Inventory, page 41

2. If a significant amount of the inventory you expect to expire by October 2007 is currently labeled and therefore not eligible for re-labeling, please revise your disclosure to clearly disclose why you have not recorded an obsolescence reserve. In this regard, please disclose the source of your sales estimates, the material assumptions you made in your analysis and the reasonably likely changes in your assumptions and the resulting impact on your financial position, results of operations and liquidity.
3. Please revise your disclosure to clearly indicate why you acquired 1,600 additional vials of Abbokinase from one of your wholesale distributors when you do not appear to be in a position to sell all the vials you have in inventory. In this regard, you disclose that initially you estimated that you would only be able to sell approximately 111,000 of the 153,000 vials acquired from Abbott. Please disclose why you apparently believe you will be in a position to sell 112,600 vials of Abbokinase. In addition, please represent to us that if your market expectations change and you ultimately will be able to sell more than 112,600 vials, that you will disclose this fact in any future filings under the Exchange Act and that you will disclose the impact on future margin of selling vials with an effective book value of zero.

Principal Stockholders, page 90

4. Please identify the natural persons who are the beneficial owners of the shares held by ITX International Equity Corp.

Notes to Consolidated Financial Statements

Note 2: Significant Accounting Policies

Revenue Recognition, page F-9

5. We acknowledge your response to our previous comment 33. Please revise your disclosure to clearly indicate why you do not have a history of product returns and are therefore apparently unable to reasonably estimate product returns. In this

regard, it is clear that Abbokinase was previously marketed by Abbott and it is presumed that historical returns data does exist.

Note 4: Income Taxes, page F-15

6. We acknowledge your response to our previous comment 35. It is unclear why you reference EITF 96-1 in your response and disclosure as this consensus was ultimately codified into EITF 00-19 and does not appear to relate to income tax accounting. It is also unclear whether you intended to refer to EITF 96-7 which applies to deferred tax accounting for in-process research and development but only in business combinations. Please revise your disclosure to remove reference to the EITF consensus or explain to us how it applies in your circumstances by specifically referencing the provision(s) and describing how they apply.

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As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Mark Brunhofer at (202) 551-3638 or James Rosenberg at (202) 551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Greg Belliston at (202) 551-3861 or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: John M. Steel, Esq.
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