



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

June 5, 2013

Via E-mail

Thomas Okarma  
Chief Executive Officer  
Asterias Biotherapeutics, Inc.  
230 Constitution Drive  
Menlo Park, CA 94025

**Re: Asterias Biotherapeutics, Inc.  
Registration Statement on Form S-1  
Response dated May 10, 2013  
File No. 333-187706**

Dear Mr. Okarma:

We have reviewed your May 10, 2013 response to our April 24, 2013 letter which responds to the issues identified in our letter and have the following comments. Please respond to this letter by amending your registration statement and providing the requested information. Where you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

General

1. We have not performed a detailed examination of the registration statement during the pendency of the resolution of the comments identified in our April 24, 2013 letter. We will begin our detailed examination of the registration statement upon filing of an amended registration statement responsive to the comments below and reflecting your proposed resolution to our prior comments 3 and 4.
2. Please amend your registration statement to reflect only the registration of the Series A Distribution as you have proposed in response to our prior comment 3. Further, please identify Geron as an underwriter.
3. We note that as part of the Series A Distribution, "fractional shares will not be distributed in the Series A Distribution, and instead will be aggregated and sold by Geron and the proceeds of the sale will be distributed by Geron ratably to its stockholders who would otherwise be entitled to receive fractional shares. Also, in lieu of distributing the Series A Shares in jurisdictions where it would be unlawful to do so, and in certain other to-be-determined excluded jurisdictions, Geron will sell the Series A Shares that its stockholders who reside in those jurisdictions would otherwise be entitled to receive, and Geron will distribute the cash proceeds ratably to those stockholders." Please advise us as to how and when you intend to register the distribution and sale of such shares by

Thomas Okarma  
Asterias Biotherapeutics, Inc.  
June 5, 2013  
Page 2

Geron or, alternatively, if you believe there is a valid exemption from the Securities Act of 1933, please advise us of the exemption you will rely upon to conduct this sale privately without registration.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. 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.

Please contact Karen Ubell, Staff Attorney, (202) 551-3873, Jennifer Riegel, Special Counsel, at (202) 551-3575 or me at (202) 551-3715 with any questions.

Sincerely,

/s/ Jennifer Riegel for

Jeffrey P. Riedler  
Assistant Director

cc: Via E-mail  
Richard S. Soroko  
Thompson, Welch, Soroko & Gilbert LLP