



DIVISION OF
CORPORATION FINANCE

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

January 28, 2011

Mr. Timothy Mayleben
President and Chief Executive Officer
Aastrom Biosciences, Inc.
24 Frank Lloyd Wright Drive,
P. O. Box 376,
Ann Arbor, MI 48106

**Re: Aastrom Biosciences, Inc.
Form 10-K for the Year Ended June 30, 2010
Filed September 7, 2010
File No. 000-22025**

Dear Mr. Mayleben:

We have reviewed your filing and have the following comments. In some of our comments, we ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within 10 business days by amending your Form 10-K for the year ended June 30, 2010, providing the requested information or by advising us when you will provide the requested response. If you do not believe a comment applies to your facts and circumstances, please tell us why in your response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your responses to our comments.

After reviewing the information provided, we may have additional comments.

Cover Page

1. You have indicated through check marks that you are both an accelerated filer and a smaller reporting company. In future filings, please only check the correct box.

Item 1. Business
Production

2. You state in your disclosure that you rely on certain third parties to manufacture or supply certain devices and manufacturing equipment, as well as components and other materials that are used in your cell manufacturing process. Specifically, you refer to the following third parties: Sparton Corporation, Ethox, ATEK Medical, Lonza Walkersville, Inc., Genpore, BioLife Solutions, Inc., and Invitrogen Corporation. Please provide us with draft disclosure for future filings that describes the material terms of each of these agreements, including their payment, duration and termination provisions. Furthermore, you have not filed most of these agreements as exhibits to your annual report; we request

that you do so. If you believe you are not substantially dependent on any of these arrangements, please provide us with your analysis.

Patents and Proprietary Rights, page 7

3. In future filings, please include the duration of each of your material patents in this disclosure. Please confirm you will do so.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 27

4. In your July 14, 2005 response to the first comment of our April 15, 2005 letter you represent that you will disclose, in tabular format, the historical costs incurred on your research and development projects. Please provide us draft disclosure for inclusion in your future periodic reports that discloses the costs you incurred during each period presented and to date on each of your projects. In this regard, it appears that at a minimum you should separately disclose the costs incurred for your Critical Limb Ischemia and Dilated Cardiomyopathy projects.

Notes to Consolidated Financial Statements

Note 4: Shareholders' Equity, page 48

5. It appears that the warrants issued in conjunction with your January 21, 2010 unit offering were made pursuant to a shelf registration statement. Please explain to us why you have not accounted for your Class A warrants issued in this unit offering as derivative liabilities under either or both of the following scenarios:
 - Please explain to us how you overcome the presumption in ASC 815-40-25-14 that these warrants are net cash settleable. In this regard, although it appears that sections 3(a) and 3(b) of the warrant agreement permit the holder the option to exercise the warrant on a cashless basis if a valid registration statement for the resale of the underlying common stock is not effective, the warrant agreement does not appear to require cashless exercise. It therefore appears that by operation of the U.S. Securities Laws the warrant holder may demand settlement in registered shares, a result which is beyond your control, and thereby trigger derivative liability treatment under ASC 815-40-25-14.
 - It appears that section 4.4 of your warrant agreement provides the holder price protection whereby the exercise price is reduced if you issue equity instruments at prices lower than the warrant exercise price. Please explain to us how this provision does not violate the requirement under ASC 815-40-15-7 to be indexed to your own stock. In this regard, although this provision adjusts the exercise price of the warrant based on a mathematical formula, it does not appear that this formula adjusts the exercise price solely for the dilutive effect of the future equity issuance being below the then-current market price. Please see Example 17 at ASC 815-40-55-42 and 55-43.

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Item 9A. Controls and Procedures
Management's Report on Internal Control over Financial Reporting, page 53

6. We note your statement that "(m)anagement . . . assessed the effectiveness of our internal control over financial reporting . . . and concluded that it was effective *at a reasonable level.*" Item 308(a)(3) of Regulation S-K requires you to state whether or not your internal control over financial reporting was effective during the applicable period. Qualifying this statement as you have done here is not appropriate. Please amend your annual report to remove this qualification by stating that your internal controls were either effective or were not effective.

Signatures, page 56

7. Please amend your annual report to include the signatures of your principal financial officer and your principal accounting officer or controller. If any of the current signatories act in these capacities, please advise us and confirm that you will revise your signature page in the future to indicate all the capacities in which the signatories have signed the report.

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 Exchange Act of 1934 and all applicable Exchange 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.

In responding to our comments, please provide a written statement from the company acknowledging 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.

Please contact Kei Nakada, Staff Accountant, at (202) 551-3659 or Mark Brunhofer, Senior Staff Accountant, at (202) 551-3638, if you have questions regarding the processing of your response as well as any questions regarding comments on the financial statements and related matters. You may contact Scot Foley, Staff Attorney, at (202) 551-3383 or Jeff Riedler, Assistant Director, at (202) 551-3715 with questions on any of the other comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant