



April 12, 2011

**VIA EDGAR AND FEDERAL EXPRESS**

U.S. Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549  
Attention: Jim B. Rosenberg

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

Ladies and Gentlemen:

This letter is submitted by Aastrom Biosciences, Inc. (the "Company") in response to the comments of the staff of the Division of Corporation Finance (the "Staff") of the Securities and Exchange Commission (the "Commission") raised in your letter of March 29, 2011 regarding the Company's Form 10-K for the fiscal year ended June 30, 2010 filed on September 7, 2010 and Form 10-K/A for the fiscal year ended June 30, 2010 filed on February 24, 2011 (the "Comment Letter"). For reference purposes, the text of the Comment Letter has been reproduced herein with responses below each numbered comment.

Form 10-K for the fiscal year ended June 30, 2010

Item 1. Business

Production

1. *We note your response to our prior comment 2. Please be more specific in your explanation regarding your third-party agreements. In particular, please describe the components and materials you obtain through each of these agreements and why you believe that you would only experience a minor disruption if any of the agreements were amended or terminated.*

Response 1:

In response to the Staff's comment, the Company supplements its response to the Staff's prior comment 2 regarding its third-party arrangements. The Company respectfully advises the Staff that the Company is not substantially dependent on its relationships with

---

Aastrom Biosciences  
Domino's Farms, Lobby K  
24 Frank Lloyd Wright Drive  
Ann Arbor, MI 48105  
T 734 930-5555 F 734 665-0485  
www.aastrom.com

Sparton Corporation (“Sparton”), Lonza Walkersville, Inc. (“Lonza”), Life Technologies Corporation (“Life Technologies”) (formerly Invitrogen), BioLife Solutions, Inc. (“BioLife”), Ethox International (“Ethox”), or Genpore as discussed below.

#### *Sparton*

Pursuant to the Master Supply Agreement between the Company and Sparton effective as of February 14, 2003, Sparton manufactured the Company’s Aastrom Replicell System units (the “ARS units”), a platform used to produce various cell mixtures. Based upon the Company’s current business strategy, ARS is no longer being marketed as a stand-alone product, and the Company has not purchased ARS units from Sparton (or others) in more than five years. If it were to produce ARS units in the future, the Company anticipates that it could find an alternative manufacturer because the Company owns and maintains the plans and molds necessary to manufacture the ARS units.

#### *Lonza*

Lonza currently supplies media for the Company’s manufacturing process and bone marrow for the Company’s non-clinical research and development activities. Alternative sources exist for both the media and bone marrow and the Company believes it could secure a supplier for these materials relatively quickly and for little or no additional cost to the Company.

#### *Life Technologies*

Life Technologies currently supplies the Company’s reagents and serum for use in the Company’s manufacturing process, either of which could be supplied by an alternative third party relatively quickly and at little or no additional cost to the Company.

#### *BioLife*

BioLife supplies the Company with HypoThermosol, a biopreservation media product used to extend the shelf life of the Company’s cell therapy product from twenty-four to seventy-two hours. This extension of the shelf life allows for longer logistical lead times, though it is not a critical requirement as the Company could continue to treat patients in its clinical trials even if its cell therapy product had a twenty-four hour shelf life. In addition, the Company believes that a method for extending the shelf life of its cell therapy product could be fully developed relatively quickly, either by developing internally or by seeking alternative suppliers, thereby providing only a minor disruption to the Company in the event HypoThermosol is not available.

#### *Ethox*

Ethox formerly supplied a component of the cell cassette. The Company is in the process of identifying a new supplier which will supply the component directly to ATEK Medical, LLC (“ATEK”) and will not have a direct supply relationship with the Company.

#### *Genpore*

Genpore supplies a component of the cell cassettes to ATEK and no longer has a direct supply relationship with the Company.

---

For the reasons outlined above, the Company believes that it would only experience a minor disruption if any of the arrangements described above were amended or terminated.

Form 10-K/A for the fiscal year ended June 30, 2010

Notes to Consolidated Financial Statements

Note 6: Stock Purchase Warrants, page 52

- We acknowledge your response to our previous comment five and your disclosure describing your restatement in Note 2. Please provide us proposed revised disclosure for this footnote to be included in your future periodic reports that identifies the instruments that could potentially be net cash settled in the absence of express language precluding such settlement and those that have anti-dilution price protection features. Separately describe the types of events that would trigger the exercise price adjustments and how the price adjustments will be calculated.*

Response 2:

In response to the Staff's comment, we advise the Staff that the Company will revise its disclosure in future filings, including in its Transition Report on Form 10-K for the six month period ended December 31, 2010, to the extent applicable, to read as set forth in Exhibit A hereto.

- Please explain to us why you include your January 2010 Class B warrants as liabilities in your restated financial statements. In this regard, please help us understand how the apparent preclusion of settlement for cash or other consideration in the event you are unable to deliver Warrant Shares as stipulated in Section 3.3(a) of your Class B warrant agreement filed as Exhibit 4.2 to your Form 8-K filed on January 27, 2010 and the apparent absence of an anti-dilution price protection provision is indicative of liability treatment. In your response, please clarify for us whether there are any other provisions in the Class B warrant that necessitate liability treatment and reference for us the authoritative literature you rely upon to support your accounting.*

Response 3:

In response to the Staff's comment, the Company reviewed the accounting of its Class B warrants issued in connection with its January 21, 2010 offering and determined that these Class B warrants should not be reflected as liabilities in its financial statements. The Company has concluded that its accounting for the Class B warrants as liability instruments, which expired in early July 2010, did not materially impact its previously-filed financial statements or the financial statements for the three and six month periods ended December 31, 2010, and therefore will correct this as an out-of-period adjustment in its Transition Report on Form 10-K for the six month period ended December 31, 2010. In making this materiality assessment, the Company also considered the matter raised by the Staff in Comment 4 below. The Company will add disclosure in its Transition Report on Form

---

10-K for the six month period ended December 31, 2010 to read as set forth in Exhibit B hereto.

4. *We do not believe that a Black-Scholes valuation model appropriately captures the value of warrants that include anti-dilution price protection provisions. In this regard the Black-Scholes model is a single path model that does not take into account the potential exercise price adjustments under your warrants' anti-dilution price protection provisions. Please use an appropriate valuation model such as a binomial or lattice model.*

Response 4:

The Company advises the Staff that, beginning on December 31, 2010, it will use a Monte Carlo valuation model to value its warrants that include anti-dilution price protection provisions. As of June 30, 2010 the Class A warrants issued on January 21, 2010 were the only outstanding warrants of the Company with anti-dilution price protection provisions. The Company has concluded that the impact of using a Black-Scholes valuation methodology for the Class A warrants to previously-filed financial statements, or to the three and six month periods ended December 31, 2010, was not material and, therefore, will correct this as an out-of-period adjustment in its Transition Report on Form 10-K for the six month period ended December 31, 2010. In making this materiality assessment, the Company also considered the matter raised by the Staff in Comment 3 above. The Company will add disclosure in its Transition Report on Form 10-K for the six month period ended December 31, 2010 to read as set forth in Exhibit B hereto.

\* \* \*

If you should have any questions concerning the enclosed matters, please contact the undersigned at (734) 930-5552.

Very truly yours,

/s/ *Scott C. Durbin*

Scott C. Durbin, Chief Financial Officer

cc: Timothy Mayleben, *Aastrom Biosciences, Inc.*  
Mitchell S. Bloom, Esq., *Goodwin Procter LLP*  
Danielle Lauzon, Esq., *Goodwin Procter LLP*  
Jacqueline Mercier, Esq., *Goodwin Procter LLP*  
Jeff Riedler, *U.S. Securities and Exchange Commission*  
Mark Brunhofer, *U.S. Securities and Exchange Commission*  
Kei Nakada, *U.S. Securities and Exchange Commission*  
Scot Foley, *U.S. Securities and Exchange Commission*

---

## Exhibit A

### **Stock Purchase Warrants**

The Company has historically issued warrants to purchase shares of the Company's common stock in connection with certain of its common stock offerings. The following warrants were outstanding during the years ended June 30, 2008, 2009 and 2010, and the six month transition period ended December 31, 2010, and include provisions that could require cash settlement of the warrants or have anti-dilution price protection provisions requiring each to be recorded as liabilities of the Company at the estimated fair value at the date of issuance, with changes in estimated fair value recorded as non-cash income or expense in the Company's statement of operations in each subsequent period:

- (i) warrants to purchase an aggregate of 300,000 shares of the Company's common stock, issued on April 5, 2004 in connection with the Company's registered direct offering, exercisable for a five year period commencing on April 5, 2004 at an exercise price of \$13.20 per share, all of which expired unexercised;
- (ii) warrants to purchase an aggregate of 320,248 shares of the Company's common stock, issued on October 27, 2004 in connection with the Company's registered direct offering, exercisable from April 28, 2005 through October 27, 2008 at an exercise price of \$13.92 per share, all of which expired unexercised;
- (iii) warrants to purchase an aggregate of 740,131 shares of the Company's common stock, issued on October 17, 2007 in connection with the Company's registered direct offering, exercisable from April 18, 2008 through April 17, 2013 at an exercise price of \$12.72 per share, all of which remained outstanding as of December 31, 2010;
- (iv) Class A warrants to purchase an aggregate of 4,882,228 shares of the Company's common stock, issued on January 21, 2010 in connection with the Company's registered public offering, exercisable for a five year period commencing on July 21, 2010 at an exercise price of \$2.52 per share (as adjusted from \$2.97 per share for the anti-dilution provision triggered in the December 2010 financing), 4,525,978 of which remained outstanding as of December 31, 2010; and
- (v) warrants to purchase an aggregate of 10,000,000 shares of the Company's common stock, issued on December 15, 2010 in connection with the Company's registered public offering, exercisable for a five year period commencing on December 15, 2010 at an exercise price of \$3.22 per share, all of which remained outstanding as of December 31, 2010.

All of the warrants listed above could require net cash settlement in the event that registered shares are not available at the time of exercise of such warrant. The Class A warrants and the December 2010 warrants also contain anti-dilution provisions that adjust the exercise price of the warrant if the Company issues or sells, or is deemed to have issued or sold, any shares of its common stock or securities exercisable or convertible into shares of common stock for no consideration or for a consideration per share less than the applicable exercise price in effect immediately prior to the time of such issue or sale. In the event of such a subsequent issuance of common stock of the Company, (i) the exercise price of the Class A warrants would be adjusted to a point between the current exercise price per share of such Class A warrant and the price per

---

share at which the new shares of common stock of the Company are being issued based on a weighted average calculation as outlined in the Class A warrant agreement, and (ii) the exercise price of the December 2010 warrants would be adjusted to the price per share at which the new shares of common stock of the Company are being issued. Notwithstanding the foregoing, there are certain issuances of the Company that would not trigger the anti-dilution provisions of the Class A warrants or the December 2010 warrants, including but not limited to, issuances under any duly authorized Company stock option, restricted stock plan or stock purchase plan whether now existing or hereafter approved by the Company and its stockholders in the future, or as an inducement grant to employees, consultants, directors or officers. The December 2010 warrants also contain a feature that allows the warrant holder to put the warrants back to the Company and receive cash in the event of a fundamental transaction, such as a change in control of the Company or a sale of all or substantially all of its assets. The value received by the warrant holder upon exercise of the put right is based on a Black-Scholes model using a defined set of inputs outlined in the December 2010 warrant agreement.

The Class A warrants and the December 2010 warrants are measured using the Monte Carlo valuation model, while the other warrants listed above are measured using the Black-Scholes valuation model. Both of the methodologies are based, in part, upon inputs for which there is little or no observable market data, requiring the Company to develop its own assumptions. The assumptions used in calculating the estimated fair value of the warrants represent the Company's best estimates, however these estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change and different assumptions are used, the warrant liabilities and the change in estimated fair value of the warrants could be materially different.

Inherent in both the Monte Carlo and Black-Scholes valuation models are assumptions related to expected stock-price volatility, expected life, risk-free interest rate and dividend yield. The Company estimates the volatility of its common stock based on historical volatility that matches the expected remaining life of the warrants. The risk-free interest rate is based on the U.S. Treasury zero-coupon yield curve on the grant date for a maturity similar to the expected remaining life of the warrants. The expected life of the warrants is assumed to be equivalent to their remaining contractual term. The dividend rate is based on the historical rate, which the Company anticipates to remain at zero.

The Monte Carlo model is used for the Class A warrants and the December 2010 warrants to appropriately value the potential future exercise price adjustments triggered by the anti-dilution provisions as well as the value of the put feature of the December 2010 warrants. These both require Level 3 inputs which are based on the Company's estimates of the probability and timing of potential future financings and fundamental transactions.

---

## **Exhibit B**

On January 28, 2011, the Company received a comment letter from the staff of the Securities and Exchange Commission (SEC) relating to its Annual Report on Form 10-K for the fiscal year ended June 30, 2010. As a result, the Company reassessed its accounting treatment for all warrants issued by the Company since 2000 and determined that certain warrants did not appropriately consider the provisions of ASC 815-40 — *Derivatives and Hedging — Contracts in Entity's Own Equity*. The Company filed an Amended Annual Report on Form 10-K/A for the fiscal year ended June 30, 2010 and amended quarterly filings on Form 10-Q/A for the quarters ended September 30, 2009, December 31, 2009, March 31, 2010 and September 30, 2010. All periods presented in each filing were restated to account for the warrants issued in April 2004, October 2004, October 2007 and January 2010 (Class A warrants and Class B warrants) as liabilities with changes in fair value in subsequent periods recorded as non-cash income or expense. The Company used a Black-Scholes valuation methodology for all of these warrants.

The Company received a follow up comment letter from the SEC staff on March 29, 2011. As a result, the Company reassessed the appropriateness of the Black-Scholes valuation methodology used for the Class A warrants issued in January 2010 and the appropriateness of liability accounting for the Class B warrants issued in January 2010 (which expired unexercised in July 2010). After further analysis, the Company concluded that a Monte Carlo valuation methodology is more appropriate for valuing the Class A warrants and the terms of the Class B warrants are such that the Class B warrants should have been classified as equity rather than as a liability.

The Company assessed the aforementioned items and concluded the impacts to the Company's previously-filed financial statements were not material. However, as of December 31, 2010, the Company is now utilizing a Monte Carlo valuation methodology to estimate the fair value of its Class A warrants and will continue to do so going forward. Additionally, the Company has corrected the cumulative impact of the aforementioned items in the six-month transition period ended December 31, 2010. The impact of these items is not material to the quarter or six-month transition period ended December 31, 2010. These corrections decreased the Company's net loss for the six-month transition period ended December 31, 2010 by approximately \$77,000 and also decreased the Company's shareholders' equity by \$349,000.