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

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Aastrom Biosciences, Inc.

(Exact name of registrant as specified in its charter)

Michigan 94-3096597

(State or other jurisdiction of incorporation or organization)

 $(I.R.S.\ employer\ identification\ no.)$

24 Frank Lloyd Wright Drive P.O. Box 376 Ann Arbor, Michigan 48106

(Address of principal executive offices) (Zip code)

Aastrom Biosciences, Inc. 2004 Equity Incentive Plan

(Full title of the plan)

George W. Dunbar
President and Chief Executive Officer
Aastrom Biosciences, Inc.
24 Frank Lloyd Wright Drive
P.O. Box 376
Ann Arbor, Michigan 48106

(Name and address of agent for service)

Telephone number, including area code, of agent for service: (734) 930-5555

This registration statement shall hereafter become effective in accordance with Rule 462 promulgated under the Securities Act of 1933, as amended (the "Securities Act").

CALCULATION OF REGISTRATION FEE

Title of securities to be registered ¹	Amount to be registered ²	Proposed maximum offering price per share ³	Proposed maximum aggregate offering price ³	Amount of registration fee
2004 Equity Incentive Plan				
Common Stock				
(\$0 par value)	8,000,000	\$1.425	\$11,400,000	\$1,220

- 1 The securities to be registered include options and rights to acquire Common Stock.
- Pursuant to Rule 416(a) promulgated under the Securities Act, this registration statement also covers any additional securities that may be offered or issued in connection with any stock split, stock dividend or similar transaction.
- Estimated pursuant to Rule 457 promulgated under the Securities Act solely for purposes of calculating the registration fee. As to the shares issuable pursuant to the 2004 Equity Incentive Plan, the price is based upon the average of the high and low prices of the Common Stock on February 6, 2007, as reported on the Nasdaq Stock Market.

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PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

<u>Item 3</u>. <u>Incorporation of Documents by Reference</u>

Aastrom Biosciences, Inc. (the "Company") hereby incorporates by reference in this registration statement the following documents:

- (a) The Company's Annual Report on Form 10-K for the year ended June 30, 2006, as filed with the Securities and Exchange Commission on September 13, 2006 (File Number 000-22025).
- (b) All other reports filed by the Company pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") since the end of the fiscal year covered by the document referred to in (a) above.
- (c) The description of the Company's Common Stock contained in the Company's Registration Statement on Form 8-A, filed pursuant to Section 12 of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment to this registration statement which indicates that all securities offered hereby have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of filing of such documents.

Item 4. Description of Securities

The class of securities to be offered is registered under Section 12 of the Exchange Act.

<u>Item 5</u>. <u>Interests of Named Experts and Counsel</u>

Inapplicable.

<u>Item 6</u>. <u>Indemnification of Directors and Officers</u>

Sections 1561 through 1571 of the Michigan Business Corporation Act (the "MBCA") authorize a corporation to grant or a court to award, indemnity to directors, officers, employees and agents in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act of 1933.

The Bylaws of the Company provide that the Company shall, to the fullest extent authorized or permitted by the MBCA, or other applicable law, indemnify a director or officer who was or is a party or is threatened to be made a party to any proceeding by or in the right of the Company to procure a judgment in its favor by reason of the fact that such person is or was a director, officer, employee or agent of the Company, against expenses, including actual and reasonable attorneys' fees, and amounts paid in settlement incurred in connection with the action or suit, if the indemnitee acted in good faith and in a manner the person reasonably believed to be in, or not opposed to, the best interests of the Company or its shareholders. This section also authorizes the Company to advance expenses incurred by any agent of the Company in defending any proceeding prior to the final disposition of such proceeding upon receipt of an undertaking by or on behalf of the agent to repay such amount unless it shall be determined ultimately that the agent is entitled to be indemnified.

The Bylaws also authorize the Company to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Company against any liability asserted against or incurred by such person in such capacity or arising out of such person's status as such, regardless of whether the Company would have the power to indemnify such person against such liability under the provisions of the MBCA.

The Company has entered into indemnification agreements with certain individuals which contain provisions that may in some respects be broader than the specific indemnification provisions contained under applicable law. The indemnification agreement may require the Company, among other things, to indemnify such directors, officers and key personnel against certain liabilities that may arise by reason of their status or service as directors, officers or employees of the Company, to advance the expenses incurred by such parties as a result of any threatened claims or proceedings brought against them as to which they could be indemnified, and to the maximum extent that insurance coverage of such directors, officers and key employees under the Company's directors' and officers' liability insurance policies is maintained.

Section 1209 of the MBCA permits a Michigan corporation to include in its Articles of Incorporation a provision eliminating or limiting a director's liability to a corporation or its shareholders for monetary damages for breaches of fiduciary duty. The enabling statute provides, however, that liability for breaches of the duty of loyalty, acts or omissions not in good faith or involving intentional misconduct or knowing violations of the law, or the receipt of improper personal benefits cannot be eliminated or limited in this manner. The Company's Restated Articles of Incorporation include a provision which eliminates, to the fullest extent permitted by the MBCA, director liability for monetary damages for breaches of fiduciary duty.

<u>Item 7.</u> <u>Exemption From Registration Claimed</u>

Inapplicable.

Item 8. Exhibits

See Exhibit Index.

Item 9. Undertakings

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement; and
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

<u>provided</u>, <u>however</u>, that paragraphs (1)(i) and (1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURE

Pursuant to the requirements of the Securities Act, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Ann Arbor, State of Michigan, on February 12, 2007.

AASTROM BIOSCIENCES, INC.

By: /s/ George W. Dunbar

George W. Dunbar

President and Chief Executive Officer

POWER OF ATTORNEY

The officers and directors of Aastrom Biosciences, Inc. whose signatures appear below, hereby constitute and appoint George W. Dunbar and Gerald D. Brennan, Jr., and each of them, their true and lawful attorneys and agents, with full power of substitution, each with power to act alone, to sign and execute on behalf of the undersigned any amendment or amendments to this registration statement on Form S-8, and each of the undersigned does hereby ratify and confirm all that each of said attorney and agent, or their or his substitutes, shall do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities indicated on February 12, 2007.

Signature	Title		
/s/ George W. Dunbar George W. Dunbar	President and Chief Executive Officer and Director (Principal Executive Officer)		
/s/ Gerald D. Brennan, Jr. Gerald D. Brennan, Jr.	Vice President, Administrative and Financial Operations and Chief Financial Officer (Principal Financial and Accounting Officer)		
/s/ Stephen G. Sudovar	Chairman		
Stephen G. Sudovar			
/s/ Susan L. Wyant	Director		
Susan L. Wyant /s/ Timothy M. Mayleben Timothy M. Mayleben	Director		
/s/ Alan L. Rubino Alan L. Rubino	Director		
/s/ Nelson M. Sims Nelson M. Sims	Director		
/s/ Robert L. Zerbe	Director		
Robert L. Zerbe			

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- 4.1 Restated Articles of Incorporation of the Company, as amended, are incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K for the year ended June 30, 2006, as filed with the Securities and Exchange Commission on September 13, 2006 (File Number 000-22025).
- 4.2 Bylaws of the Company, as amended, are incorporated by reference to Exhibit 3.2 to the Company's Annual Report on Form 10-K for the year ended June 30, 2005, as filed with the Securities and Exchange Commission on September 13, 2005 (File Number 000-22025).
- 5 Opinion re: legality
- 23.1 Consent of Counsel (included in Exhibit 5)
- 23.2 Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
- Power of Attorney (included in signature pages to this registration statement)



Dykema Gossett PLLC 2723 South State Street Suite 400 Ann Arbor, Michigan 48104 www.dykema.com Tel: (734) 214-7660

Fax: (734) 214-7696

February 12, 2007 Securities and Exchange Commission 450 Fifth Street, N.W. Washington, D.C. 20549

Re: Aastrom Biosciences, Inc. Registration Statement on Form S-8 Registering Shares Issuable Under the 2004 Equity Incentive Plan

Dear Ladies and Gentlemen:

As legal counsel for Aastrom Biosciences, Inc., a Michigan corporation (the "Company"), we are rendering this opinion in connection with the registration under the Securities Act of 1933, as amended, of up to an additional 8,000,000 shares of the Common Stock, no par value, of the Company which may be issued pursuant to options and other rights to acquire Common Stock granted under the Aastrom Biosciences, Inc. 2004 Equity Incentive Plan (the "Plan").

We have examined all instruments, documents, and records that we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to the originals of all documents submitted to us as copies.

Based on such examination, we are of the opinion that the 8,000,000 shares of Common Stock that may be issued under the Plan are duly authorized shares of the Company's Common Stock, and, when issued against payment of the purchase price therefore and in accordance with the provisions of the Plan, will be validly issued, fully paid, and non-assessable.

We consent to the filing of this opinion as an Exhibit to the Registration Statement referred to above and to the use of our name wherever it appears in said Registration Statement.

Respectfully submitted,

DYKEMA GOSSETT PLLC

/s/ Dykema Gossett PLLC

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated September 13, 2006, relating to the financial statements, financial statement schedule, management's assessment of the effectiveness of internal control over financial reporting and the effectiveness of internal control over financial reporting, which appears in Aastrom Biosciences, Inc.'s Annual Report on Form 10-K for the year ended June 30, 2006.

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Detroit, Michigan

February 12, 2007