

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(State or other jurisdiction
of incorporation or organization)**94-3096597**

(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. 2009 Omnibus Incentive Plan**
(Full title of the plan)**Timothy M. Mayleben**
President, Chief Executive Officer and Chief Financial 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").

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
(Do not check if a smaller reporting company)**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
2009 Omnibus Incentive Plan Common Stock (no par value)	26,000,000	\$0.30	\$7,800,000	\$436

- 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 2009 Omnibus Incentive Plan, the price is based upon the average of the high and low prices of the Common Stock on December 17, 2009, as reported on the Nasdaq Stock Market.

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PART II
INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference

Aastrom Biosciences, Inc. (the "Company") hereby incorporates by reference in this registration statement the following documents previously filed by the Company with the Securities and Exchange Commission (the "Commission"), to the extent such documents are considered filed with the Commission:

(a) The Company's Annual Report on Form 10-K for the year ended June 30, 2009.

(b) The Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2009.

(c) The Company's Current Reports on Form 8-K filed on September 8, 2009, October 7, 2009, October 20, 2009, October 27, 2009 and December 17, 2009.

(d) All documents filed with the Commission by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the "1934 Act") subsequent to the date hereof and prior to the filing of a post-effective amendment which indicates that all securities offered herein have been sold or which deregisters all securities then remaining unsold.

(e) The description of the Company's Common Stock contained in the Registrant's 1934 Act registration statement on Form 8-A dated January 22, 1997, filed with the Commission pursuant to Section 12 of the 1934 Act, including any amendment thereto or report filed for the purpose of updating such description.

Any statement contained herein, or in a document all or a portion of which is incorporated or deemed to be incorporated by reference herein, shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

Item 4. Description of Securities

Not applicable.

Item 5. Interests of Named Experts and Counsel

Not applicable.

Item 6. Indemnification of Directors and Officers

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, as amended.

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

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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, as amended, include a provision which eliminates, to the fullest extent permitted by the MBCA, director liability for monetary damages for breaches of fiduciary duty.

Item 7. Exemption From Registration Claimed

Not applicable.

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;

provided, however, 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.

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(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 December 18, 2009.

AASTROM BIOSCIENCES, INC.

By: /s/ Timothy M. Mayleben
Timothy M. Mayleben
President, Chief Executive Officer and Chief Financial
Officer

POWER OF ATTORNEY

The officers and directors of Aastrom Biosciences, Inc. whose signatures appear below, hereby constitute and appoint Timothy M. Mayleben, their true and lawful attorney and agent, with full power of substitution, 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 said attorney and agent, 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 December 18, 2009.

<u>Signature</u>	<u>Title</u>
<u>/s/ Timothy M. Mayleben</u> Timothy M. Mayleben	President, Chief Executive Officer and Chief Financial Officer and Director (Principal Executive, Financial and Accounting Officer)
<u>/s/ George W. Dunbar</u> George W. Dunbar	Director
<u>/s/ Alan L. Rubino</u> Alan L. Rubino	Director
<u>/s/ Nelson M. Sims</u> Nelson M. Sims	Director
<u>/s/ Harold C. Urschel, Jr.</u> Harold C. Urschel, Jr.	Director
<u>/s/ Robert L. Zerbe</u> Robert L. Zerbe	Director

EXHIBIT INDEX

4.1	Restated Articles of Incorporation of the Company, as amended, are incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, as filed with the Securities and Exchange Commission on December 17, 2009.
4.2	Bylaws of the Company, as amended, are incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K as filed with the Securities and Exchange Commission on October 23, 2008.
5	Opinion re: legality
23.1	Consent of Counsel (included in Exhibit 5)
23.2	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
24	Power of Attorney (included in signature pages to this registration statement)



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December 18, 2009

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

Re: Aastrom Biosciences, Inc. Registration Statement on Form S-8 (the "Registration Statement") Registering Shares Issuable Under the 2009 Omnibus Incentive Plan

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 (the "Securities Act"), of up to 26,000,000 authorized but unissued shares of the Common Stock, no par value, of the Company (the "Shares") which may be issued pursuant to options and other rights to acquire Common Stock granted under the Aastrom Biosciences, Inc. 2009 Omnibus 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 Shares that may be issued under the Plan have been duly authorized 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.

The opinion expressed herein is limited to the laws of the State of Michigan and the federal laws of the United States. We express no opinion and make no representation with respect to the law of any other jurisdiction.

California | Illinois | Michigan | Texas | Washington D.C.



Astrom Biosciences, Inc.
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We consent to the inclusion of this opinion as an exhibit to the Registration Statement and to the reference to our firm in the Registration Statement. In giving this consent, we do not concede that we are experts within the meaning of the Securities Act or the rules and regulations thereunder or that this consent is required by Section 7 of the Securities Act.

Respectfully submitted,

DYKEMA GOSSETT PLLC

/s/ DYKEMA GOSSETT PLLC

CALIFORNIA | ILLINOIS | MICHIGAN | TEXAS | WASHINGTON D.C.

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 14, 2009 relating to the financial statements 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, 2009.

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

Detroit, Michigan

December 18, 2009