

As filed with the Securities and Exchange Commission on June 7, 2011

**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 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)

(734) 418-4400

(Telephone Number, Including area code, of Agent for Service)

Copy to:

Mitchell S. Bloom, Esq.

Goodwin Procter LLP

Exchange Place

53 State Street

Boston, Massachusetts 02109

Tel: (617) 570-1000

Fax: (617) 523-1231

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	Amount to be Registered(1)	Proposed maximum offering price per share(2)	Proposed maximum aggregate offering price(2)	Amount of registration fee
Common Stock (no par value)	3,900,000	\$2.96	\$11,544,000	\$1,341

(1) Pursuant to Rule 416(a) promulgated under the Securities Act, this registration statement also covers any additional securities that may become issuable under the Aastrom Biosciences, Inc. 2009 Omnibus Incentive Plan, as amended from time to time, by reason of any stock split, stock dividend or similar transaction.

(2) Estimated pursuant to Rule 457 promulgated under the Securities Act solely for purposes of calculating the registration fee and based upon the average of the high and low prices of the Common Stock on June 6, 2011, as reported on the Nasdaq Capital Market.

NOTE

This Registration Statement on Form S-8 registers 3,900,000 additional shares of the common stock, no par value per share (“Common Stock”), of Aastrom Biosciences, Inc. (the “Company” or the “Registrant”) which may be acquired pursuant to the Aastrom Biosciences, Inc. 2009 Omnibus Incentive Plan, as amended (the “Plan”). The securities subject to this Registration Statement are of the same class of the Registrant for which the Registrant previously filed a Registration Statement on Form S-8 under the Securities Act of 1933, as amended (the “Securities Act”). Accordingly, the contents of the Registrant’s Registration Statement on Form S-8, File No. 333-163832, as filed with the Securities and Exchange Commission (the “Commission”) on December 18, 2009, are hereby incorporated by reference pursuant to General Instruction E to Form S-8. After giving effect to this Registration Statement, an aggregate of 7,150,000 shares of the Registrant’s Common Stock have been registered for issuance pursuant to the Plan.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information.

The documents containing the information specified in this Item 1 will be sent or given to participants as specified by Rule 428(b)(1) under the Securities Act. In accordance with the rules and regulations of the Commission and the instructions to Form S-8, such documents are not being filed with the Commission either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

Item 2. Registrant Information and Employee Plan Annual Information.

The documents containing the information specified in this Item 2 will be sent or given to participants as specified by Rule 428(b)(1) under the Securities Act. In accordance with the rules and regulations of the Commission and the instructions to Form S-8, such documents are not being filed with the Commission either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The Company hereby incorporates by reference in this Registration Statement the following documents previously filed by the Company with the Commission:

- (a) The Company’s Annual Report on Form 10-KT for the transition period from July 1, 2010 to December 31, 2010;
 - (b) The Company’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2011;
 - (c) The Company’s Current Reports on Form 8-K filed on January 19, 2011, February 14, 2011, March 25, 2011 and June 1, 2011; and
-

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

All documents subsequently filed with the Commission by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, 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, 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.

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 561 through 571 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.

The Amended and Restated Bylaws of the Company (the "Bylaws") 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. The Bylaws also authorize the Company to advance expenses incurred by any officer or director 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 an indemnification agreement with each of its directors (the "Agreement"). The Agreement provides that the Company will indemnify each director to the fullest extent permitted by law for claims arising in his capacity as a director of the Company, provided that such director acted in good faith and in a manner that he reasonably believed to be in, or not opposed to, the Company's best interests and, with respect to any criminal proceeding, had no reasonable cause to believe that his conduct was unlawful. In the event that the Company does not assume the defense of a claim against a director, the Company is required to advance such director's expenses in connection with his defense, provided that the director undertakes to repay all amounts

advanced if it is ultimately determined that he is not entitled to be indemnified by the Company. A copy of the form of Agreement is filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 31, 2010 and is incorporated herein by reference.

Section 209 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. Section 209 of the MBCA provides, however, that liability for any of the following may not be eliminated: the amount of a financial benefit received by a director to which he or she is not entitled, intentional infliction of harm on the corporation or the shareholders, a violation of Section 551 of the MBCA, or an intentional criminal act. 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, except under the circumstances required to be excepted under the MBCA as described above.

The Company has obtained director and officer liability insurance for the benefit of its directors and officers.

Item 7. Exemption From Registration Claimed.

Not applicable.

Item 8. Exhibits.

See the Exhibit Index which is incorporated into this Item 8 by reference.

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. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective 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.

(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 June 7, 2011.

AASTROM BIOSCIENCES, INC.

By: /s/ Timothy M. Mayleben

Timothy M. Mayleben

President and Chief Executive Officer

POWER OF ATTORNEY

We, the undersigned officers and directors of Aastrom Biosciences, Inc., hereby severally constitute and appoint Timothy M. Mayleben and Scott C. Durbin, and each of them singly, our true and lawful attorneys, with full power to sign for us in our names in the capacities indicated below, any amendments to this Registration Statement on Form S-8 (including post-effective amendments), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, and generally to do all things in our names and on our behalf in our capacities as officers and directors to enable Aastrom Biosciences, Inc., to comply with the provisions of the Securities Act of 1933, as amended, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said Registration Statement and all amendments thereto.

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 June 7, 2011.

Signature	Title
<u>/s/ Timothy M. Mayleben</u> Timothy M. Mayleben	President, Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Scott C. Durbin</u> Scott C. Durbin	Chief Financial Officer (Principal Financial and Accounting Officer)
<u>/s/ Nelson M. Sims</u> Nelson M. Sims	Lead Independent Director
<u>/s/ Ronald M. Cresswell, Ph.D.</u> Ronald M. Cresswell, Ph.D.	Director
<u>/s/ Alan L. Rubino</u> Alan L. Rubino	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, filed as Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 17, 2009 and incorporated herein by reference (File No. 000-22025).
- 4.2 Certificate of Amendment to Restated Articles of Incorporation of the Company, filed as Exhibit 3.2 to the Company's Post-Effective Amendment No. 1 to Form S-1 filed on March 31, 2010 and incorporated herein by reference (File No. 333-160044).
- 4.3 Certificate of Amendment to Restated Articles of Incorporation of the Company, filed as Exhibit 3.1 to the Company's Current Report on Form 8-K, filed on March 25, 2011 and incorporated herein by reference (File No. 000-22025).
- 4.4 Bylaws, as amended, filed as Exhibit 3.1 to the Company's Current Report on Form 8-K filed on November 12, 2010 and incorporated herein by reference (File No. 000-22025).
- 5.1 Opinion of Dykema Gossett PLLC
 - 23.1 Consent of Counsel (included in Exhibit 5.1 and incorporated herein by reference)
 - 23.2 Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
- 24 Power of Attorney (included in signature pages to this Registration Statement)
- 99.1 2009 Omnibus Incentive Plan, attached as Appendix II to Aastrom's Proxy Statement filed on October 9, 2009, incorporated herein by reference.
- 99.2 Amendment to the 2009 Omnibus Incentive Plan, dated March 21, 2011, filed as Exhibit 10.4 to the Company's current Report on Form 8-K, filed on March 25, 2011 and incorporated herein by reference (File No. 000-22025).



400 Renaissance Center
Detroit, Michigan 48243

WWW.DYKEMA.COM

Tel: (313) 568-6800
Fax: (313) 568-6658

June 7, 2011

Aastrom Biosciences, Inc.
Domino's Farms, Lobby K
24 Frank Lloyd Wright Drive
Ann Arbor, MI 48105

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 3,900,000 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 receipt of the consideration 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 | WASHINGTON D.C.



Aastrom Biosciences, Inc.

June 7, 2011

Page 2

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 such consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Respectfully submitted,

/s/ **DYKEMA GOSSETT PLLC**

DYKEMA GOSSETT PLLC

BH01\1345514.1

ID\WWK - 087942/0001

CALIFORNIA | ILLINOIS | MICHIGAN | 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 April 14, 2011 relating to the consolidated financial statements, which appears in Aastrom Biosciences, Inc.'s Annual Report on Form 10-K for the six month period ended December 31, 2010.

/s/ PricewaterhouseCoopers LLP
PricewaterhouseCoopers LLP
Detroit, Michigan
June 7, 2011