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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549**

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**Amendment No. 2 to**

**FORM S-3**

**REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933**

**AASTROM BIOSCIENCES, INC.**

(Exact name of registrant as specified in its charter)

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**Michigan**

(State or other jurisdiction of  
incorporation or organization)

**94-3096597**

(I.R.S. Employer Identification  
Number)

**24 Frank Lloyd Wright Drive  
P.O. Box 376  
Ann Arbor, Michigan 48106  
(734) 930-5555**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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**George W. Dunbar, Jr.  
President and Chief Executive Officer  
Aastrom Biosciences, Inc.  
P.O. Box 376  
Ann Arbor, Michigan 48106  
(734) 930-5555**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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*With a copy to:*

**Allan J. Reich  
Seyfarth Shaw  
131 South Dearborn Street  
Suite 2400  
Chicago, Illinois 60603  
Telephone: (312) 460-5650  
Facsimile: (312) 460-7650**

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**Approximate date of commencement of proposed sale to the public:** From time to time after this Registration Statement becomes effective.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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   
(Do not check if a smaller reporting company)

Smaller reporting company

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## DEREGISTRATION OF SECURITIES

This Post-effective Amendment No. 2 to the Registration Statement on Form S-3 (File No. 333-108963) (the "Registration Statement") is being filed by Astron Biosciences, Inc. (the "Company") to deregister all of the 10,000,000 shares of the Company's common stock registered on the Registration Statement for the Company's Direct Stock Purchase Plan that have not yet been sold through the Registration Statement as of the effective date of this Post-effective Amendment No. 2.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Ann Arbor, Michigan on November 25, 2008.

**AASTROM BIOSCIENCES, INC.**

By: /s/ George W. Dunbar, Jr.

**George W. Dunbar, Jr.**

**President and Chief Executive Officer**

Each person whose signature appears below hereby constitutes and appoints George W. Dunbar, Jr. his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any or all amendments (including, without limitation, post-effective amendments) to this Registration Statement and any subsequent registration statement filed by the Registrant pursuant to Rule 462(b) of the Securities Act of 1933, which relates to this Registration Statement, and to file the same, with all exhibits thereto, and all documents in connection herewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
/s/ George W. Dunbar, Jr. George W. Dunbar, Jr.	President and CEO (Principal Executive, Financial and Accounting Officer)	November 25, 2008
/s/ Nelson M. Sims Nelson M. Sims	Chairman of the Board	November 25, 2008
/s/s Timothy M. Mayleben Timothy M. Mayleben	Director	November 25, 2008

<u>Signature</u>	<u>Title</u>	<u>Date</u>
/s/ Alan L. Rubino Alan L. Rubino	Director	November 25, 2008
/s/ Stephen G. Sudovar Stephen G. Sudovar	Director	November 25, 2008
/s/ Robert L. Zerbe, M.D. Robert L. Zerbe, M.D.	Director	November 25, 2008