
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
WASHINGTON, D.C. 20549

SCHEDULE TO

**Tender Offer Statement Under Section 14(d)(1) or 13(e)(1)
of the Securities Exchange Act of 1934**

Aastrom Biosciences, Inc.

(Name of Subject Company (Issuer) and Filing Person (Offeror))

Warrants to Purchase Common Stock
(Title of Class of Securities)

(CUSIP Numbers of Class of Securities)

Tim M. Mayleben
Chief Executive Officer
24 Frank Lloyd Wright Drive, P.O. Box 376,
Ann Arbor, Michigan
(800) 556-0311

(Name, address and telephone number of person authorized to receive notices and
communications on behalf of filing person)

Copy to:
Mitchell S. Bloom
Danielle M. Lauzon
Goodwin Procter LLP
Exchange Place
Boston, Massachusetts 02109
Telephone: (617) 570-1000
Facsimile: (617) 523-1231

CALCULATION OF FILING FEE

Transaction Valuation*
\$2,543,334.06

Amount of Filing Fee**
\$291.47

* The transaction valuation is estimated solely for the purposes of calculating the filing fee pursuant to Rule 0-11 under the Securities Exchange Act of 1934, as amended ("Rule 0-11"). The transaction valuation estimate assumes the exchange of all of the warrants of Aastrom Biosciences, Inc. issued in connection with its December 2010 public offering, and is based on the book value of the warrants as of June 27, 2012.

** The amount of the filing fee is calculated in accordance with Rule 0-11 by multiplying the estimated Transaction Valuation by one-fiftieth of one percent of the estimated value of the transaction.

Check box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid: Not applicable.
Form or Registration No.: Not applicable.

Filing Party: Not applicable.
Date Filed: Not applicable.

Check box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

Check the appropriate boxes below to designate any transactions to which the statement relates:

- third party tender offer subject to Rule 14d-1.
- issuer tender offer subject to Rule 13e-4.

- going-private transaction subject to Rule 13e-3.
- amendment to Schedule 13D under Rule 13d-2.

Check the following box if the filing is a final amendment reporting the results of the tender offer.



INTRODUCTION

This issuer tender offer Statement on Schedule TO (this "Schedule TO") is being filed by Aastrom Biosciences, Inc., a Michigan corporation ("Aastrom" or the "Company"), pursuant to Rule 13(e)-4 of the Securities Exchange Act of 1934, as amended, in connection with its offer to exchange (the "Exchange Offer") any warrant (as amended, the "Warrants") to purchase shares of common stock, no par value per share, of the Company issued in connection with the Company's December 2010 public offering, that is tendered and accepted, for shares of the Company's common stock. Aastrom is seeking to exchange any and all outstanding Warrants in the Exchange Offer.

This is a one-time offer and only valid during the period the Exchange Offer remains open. Each Warrant is currently exercisable for one (1) share of common stock, at an exercise price of \$3.22. If you elect to exchange your Warrant, you will be entitled to receive one (1) share of common stock for every two (2) Warrants tendered.

The Exchange Offer will commence on June 28, 2012 and will expire at 5:00 p.m., New York City time, on July 27, 2012 (the "Expiration Time"), unless extended or earlier terminated by the Company.

The Exchange Offer is made upon the terms and subject to the conditions to the conditions set forth in the Company's offer to exchange, dated June 28, 2012 (the "Exchange Offer Statement"), and in the related Exchange Offer materials which are filed as Exhibits (a)(1), (a)(2), (a)(3), (a)(4), (a)(5) and (d)(1) to this Schedule TO (which the Exchange Offer and related Exchange Offer materials, as amended or supplemented from time to time, collectively constitute the "Offer Materials").

This Schedule TO is being filed in satisfaction of the reporting requirements of Rules 13e-4(b)(1) and (c)(2) promulgated under the Securities Exchange Act of 1934, as amended.

Information set forth in the Offering Memorandum is incorporated by reference in response to Items 1 through 13 of this Schedule TO, except those items as to which information is specifically provided herein.

Item 1. Summary Term Sheet.

The information set forth under the captions entitled "Summary Term Sheet" and "Summary—Exchange Offer" in the Exchange Offer, attached hereto as Exhibit (a)(1), is incorporated herein by reference.

Item 2. Subject Company Information.

(a) The name of the subject company is Aastrom Biosciences, Inc., and the address of its principal executive offices is 24 Frank Lloyd Wright Drive, P.O. Box 376, Ann Arbor, Michigan 48106. The Company's telephone number is (800) 556-0311.

(b) The subject class of securities is the Company's Warrants to purchase shares of the Company's common stock with an exercise price of \$3.22 and an expiration date of December 15, 2015. As of June 28, 2012, the Company had 2,333,334 Warrants outstanding and the aggregate number of shares issuable upon exercise of the Warrants was 2,333,334 shares of the Company's common stock. The information set forth in the Exchange Offer under the caption entitled "The Exchange Offer—Eligibility" is incorporated herein by reference.

(c) The Warrants are not listed on any national securities exchange. To the Company's knowledge, there is no established trading market for the Warrants.

Item 3. Identity and Background of Filing Person.

(a) The principal executive offices of the filing person, Aastrom Biosciences, Inc., are located at is 24 Frank Lloyd Wright Drive, P.O. Box 376, Ann Arbor, Michigan 48106 and the Company's telephone number at that address is (800) 556-0311.

As required by General Instruction C to Schedule TO, the following persons are the directors and executive officers of the Company as of the date of this Schedule TO. The address for each of the following persons is the same as that of the filing person.

<u>Name</u>	<u>Office</u>
Nelson M. Sims	Lead Director
Ronald M. Cresswell	Director
Alan L. Rubino	Director
Harold C. Urschel, Jr.	Director
Robert L. Zerbe	Director
Tim M. Mayleben	President, Chief Executive Officer and Director
Brian D. Gibson	Vice President of Finance, Chief Accounting Officer and Treasurer
Ronnda L. Bartel	Chief Scientific Officer
Sharon M. Watling	Vice President Clinical Development

Item 4. Terms of the Transaction.

(a) The information set forth in the Exchange Offer under the captions entitled "Summary Term Sheet," "Summary," "Summary—Exchange Offer," "The Exchange Offer—Purpose of the Exchange Offer", "The Exchange Offer—Eligibility", "The Exchange Offer—Exchange of Warrants", "The Exchange Offer—Procedures for Tendering Warrants", "The Exchange Offer—Withdrawal Rights", "The Exchange Offer—Exchange Agent", "The Exchange Offer—Acceptance of Warrants; Issuance of Common Stock", "The Exchange Offer—Extension of Offer; Termination; Amendment", "The Exchange Offer—Source and Amount of Consideration; Description of Warrants" and "Certain Tax Consequences of the Offer" is incorporated herein by reference.

(b) To the Company's knowledge, no Warrants are owned by any officer, director or affiliate of the Company.

Item 5. Past Contacts, Transactions, Negotiations and Arrangements.

(e) The information set forth under the caption entitled "The Exchange Offer—Warrant Exchange Agreements" in the Exchange Offer is incorporated herein by reference.

Item 6. Purposes of the Transaction and Plans or Proposals.

(a) The information set forth in the Exchange Offer under the captions entitled "The Exchange Offer—Purpose of the Exchange Offer" is incorporated herein by reference.

(b) All Warrants tendered pursuant to the Exchange Offer will be cancelled.

(c) Not applicable.

Item 7. Source and Amount of Funds or Other Consideration.

(a) Not applicable. No cash will be used for the exchange of the Warrants.

(b) Not applicable. There are no alternative financing arrangements for the mandatory redemption of the Warrants.

(d) Not applicable.

Item 8. Interest in Securities of the Subject Company.

(a) To the Company's knowledge, none of the Company's directors, executive officers or controlling persons, or any of their affiliates, beneficially own any Warrants or will be tendering any Warrants pursuant to the Exchange Offer.

(b) The information set forth in the Exchange Offer in the section entitled "Warrant Exchange Agreements" is incorporated herein by reference. See "Identity and Background of Filing Person" herein.

Item 9. Person/Assets, Retained, Employed, Compensated or Used.

(a) We have not retained any person for the purpose of soliciting eligible holders of Warrants to tender their Warrants pursuant to the Exchange Offer.

Item 10. Financial Statements.

(a) The consolidated balance sheets of the Company as of December 31, 2010 and 2011 and the related consolidated statements of operations, shareholders' equity (deficit) and comprehensive loss, and cash flows for the years ended December 31, 2010 and 2011 are incorporated by reference in the Exchange Offer under the caption entitled "Available Information/Incorporation by Reference" which is incorporated herein by reference. The condensed consolidated balance sheet of the Company at March 31, 2012 in the Quarterly Reports for the quarter ended March 31, 2012 and the related condensed consolidated statements of operations, and cash flows for the quarter ended March 31, 2012 are incorporated by reference in the Exchange Offer under the caption entitled "Available Information/Incorporation by Reference" which is incorporated herein by reference.

(b) The information set forth in the Exchange Offer under the caption "Pro Forma Financial Information" and "Capitalization" is incorporated herein by reference.

Item 11. Additional Information.

(a) The information set forth under the caption entitled "The Exchange Offer—Warrant Exchange Agreements" in the Exchange Offer is incorporated herein by reference.

(b) The information set forth in the Exchange Offer and the accompanying Letter of Transmittal is incorporated herein by reference.

Item 12. Exhibits.

(a) (1) Exchange Offer, dated June 28, 2012.

(a) (2) Form of Letter of Transmittal and Instructions.

(a) (3) Form of Notice of Withdrawal.

(a) (4) Form of Letter to Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees.

(a) (5) Press Release, dated June 27, 2012, filed as Exhibit 99.1 to the Company's Report on Form 8-K, filed on June 27, 2012, incorporated herein by reference.

(d) (1) Form of Warrant Exchange Agreement, dated June 27, 2012, filed as Exhibit 10.1 to the Company's Report on Form 8-K, filed on June 27, 2012, incorporated herein by reference.

Item 13. Information Required by Schedule 13E-3.

(a) Not applicable.

SIGNATURES

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, correct and complete.

Aastrom Biosciences, Inc.

Date: June 28, 2012

By: /s/ TIM M. MAYLEBEN

Name: Tim M. Mayleben
Title: Chief Executive Officer and President

INDEX TO EXHIBITS

- (a) (1) Exchange Offer, dated June 28, 2012.
- (a) (2) Form of Letter of Transmittal and Instructions.
- (a) (3) Form of Notice of Withdrawal.
- (a) (4) Form of Letter to Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees.
- (a) (5) Press Release, dated June 27, 2012, filed as Exhibit 99.1 to the Company's Report on Form 8-K, filed on June 27, 2012, incorporated herein by reference.
- (d) (1) Form of Warrant Exchange Agreement, dated June 27, 2012, filed as Exhibit 10.1 to the Company's Report on Form 8-K, filed on June 27, 2012, incorporated herein by reference.

QuickLinks

[CALCULATION OF FILING FEE](#)

[INTRODUCTION](#)

[Item 1. Summary Term Sheet.](#)

[Item 2. Subject Company Information.](#)

[Item 3. Identity and Background of Filing Person.](#)

[Item 4. Terms of the Transaction.](#)

[Item 5. Past Contacts, Transactions, Negotiations and Arrangements.](#)

[Item 6. Purposes of the Transaction and Plans or Proposals.](#)

[Item 7. Source and Amount of Funds or Other Consideration.](#)

[Item 8. Interest in Securities of the Subject Company.](#)

[Item 9. Person/Assets, Retained, Employed, Compensated or Used.](#)

[Item 10. Financial Statements.](#)

[Item 11. Additional Information.](#)

[Item 12. Exhibits .](#)

[Item 13. Information Required by Schedule 13E-3.](#)

[SIGNATURES](#)

[INDEX TO EXHIBITS](#)

**OFFER TO EXCHANGE
COMMON STOCK
FOR ANY AND ALL OUTSTANDING
WARRANTS EXERCISABLE FOR COMMON STOCK EXPIRING DECEMBER 15, 2015
WITH AN EXERCISE PRICE OF \$3.22 PER SHARE
OF**

AASTROM BIOSCIENCES, INC.

THE EXCHANGE OFFER EXPIRES AT 5:00 P.M., EASTERN STANDARD TIME, ON JULY 27, 2012, UNLESS WE EXTEND THE DATE

Aastrom Biosciences, Inc. is offering to exchange (the "Exchange Offer"), upon the terms and subject to the conditions set forth in this Offer to Exchange Statement (the "Exchange Offer Statement"), shares of our common stock for any or all of our outstanding warrants to purchase common stock issued in connection with our December 2010 public offering (the "Warrants") with an exercise price of \$3.22 and an expiration date of December 15, 2015. This is a one-time offer and only valid during the period the Exchange Offer remains open. Each Warrant is currently exercisable into one share of our common stock for an exercise price of \$3.22. If you accept the offer and elect to exchange your Warrants, you will be entitled to receive one (1) share of our common stock for every two (2) Warrants tendered.

If you properly tender your outstanding Warrants on or prior to July 27, 2012 (the "Expiration Date") and elect to exchange your Warrants, you will be issued common stock promptly following expiration of the Exchange Offer. No fractional shares of common stock will be issued. If your election results in a fractional share of common stock to be issued, you will receive cash equal to the market value of such fractional share based on the closing price of our common stock on the day immediately preceding the Expiration Date. The Warrants are not listed on any exchange.

The shares of common stock to be issued pursuant to the Exchange Offer are being offered and issued pursuant to the exemption from registration under the Securities Act of 1933 (the "Securities Act") provided by Section 3(a)(9) of the Securities Act. Shares of common stock issued in the Exchange Offer in exchange for Warrants that are freely tradable and not restricted securities will similarly be freely tradable and not restricted. Shares of common stock issued in exchange for Warrants that are "restricted securities" within the meaning of the Securities Act will themselves be restricted securities.

Please read "Risk Factors" beginning on page 5 for a discussion of the risks that you should consider prior to tendering your outstanding Warrants in the Exchange Offer.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THE EXCHANGE OFFER IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Exchange Offer Statement is June 28, 2012.

This Exchange Offer Statement incorporates by reference important business and financial information about us from our public filings. Copies of these filings are available to you without charge upon written or oral request to us at: 24 Frank Lloyd Wright Drive, P.O. Box 376, Ann Arbor, Michigan, Attention: Secretary. To obtain timely delivery, you should request the information no later than July 20, 2012, which is five business days before the Expiration Date of the Exchange Offer.

In making your decision to participate in the Exchange Offer, you should rely only on the information contained in this Exchange Offer Statement. We have not authorized anyone to provide you with any other information. If you received any unauthorized information, you should not rely on it. We are not making an offer to sell these securities in any state or jurisdiction where the offer is not permitted. You should not assume that the information contained in this Exchange Offer Statement, or the documents incorporated by reference into this Exchange Offer Statement, is accurate as of any date other than the date on the front cover of this Exchange Offer Statement or the date of such document incorporated by reference, as the case may be.

SUMMARY TERM SHEET

- Exchange Offer by Aastrom Biosciences, Inc. for any and all of the Warrants to purchase an aggregate of 2,333,334 shares of our common stock that were issued in connection with our December 2010 public offering with an exercise price of \$3.22 and an expiration date of December 15, 2015.
 - Holders of the Warrants may exchange their Warrants for one (1) share of our common stock for every two (2) Warrants tendered.
 - The Exchange Offer will expire at 5:00 P.M., Eastern Standard Time, on July 27, 2012, unless extended.
 - Our common stock issued pursuant to the Exchange Offer will be exempt from registration under Section 3(a)(9) of the Securities Act of 1933.
 - See "The Exchange Offer".
 - Please review this Exchange Offer Statement in its entirety.
-
-

TABLE OF CONTENTS

Cautionary Statement Concerning Forward-Looking Statements	1
Summary	2
Risk Factors	5
Use of Proceeds	5
Capitalization	6
Dividend Policy	6
Pro Forma Financial Information (Unaudited)	7
Price Range of Common Stock	11
The Exchange Offer	12
Certain Tax Consequences of the Exchange Offer	21
Independent Registered Public Accounting Firm	23
Available Information / Incorporation by Reference	24

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This Exchange Offer Statement includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as "anticipates," "estimates," "plans," "projects," "trends," "opportunity," "comfortable," "current," "intention," "position," "assume," "potential," "outlook," "remain," "continue," "maintain," "sustain," "seek," "achieve," "continuing," "ongoing," "expects," "believe," "intend" and similar words or phrases, or future or conditional verbs such as "will," "would," "should," "could," "may," or similar expressions. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this report, and in particular those factors referenced in the section "Risk Factors."

Because the factors referred to in the preceding paragraph could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements we make, you should not place undue reliance on any such forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. These forward-looking statements include, but are not limited to, statements regarding:

- future capital needs;
- adequacy of existing capital to support operations for a specified time;
- product development and marketing plan;
- features and successes of our cellular therapies;
- clinical trial plans and anticipated results, including the publication thereof;
- anticipation of future losses;
- the liquidity and market volatility of our equity securities; or
- revenue expectations and operating results.

These risks are not exhaustive. Other sections of this Exchange Offer Statement include additional factors which could adversely impact our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for us to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

SUMMARY

This following summary highlights selected information from the Exchange Offer Statement and in the documents incorporated by reference. Before making an investment decision, you should read this entire Exchange Offer Statement as well as the information to which we refer you and the information incorporated by reference carefully, including the section entitled "Risk Factors", for a more detailed description of our business. In this Exchange Offer Statement, "Aastrom," "the Company," "we," "us" and "our" refer to Aastrom Biosciences, Inc.

The Company

We were incorporated in 1989 and are a regenerative medicine company focused on the development of innovative cell therapies to repair or regenerate damaged or diseased tissues. We are developing patient-specific, expanded multicellular therapies for use in the treatment of severe, chronic ischemic cardiovascular diseases. We believe ixmyelocel-T (the new generic name approved by the U.S. Food and Drug Administration (FDA) and United States Adopted Names (USAN) Council in March 2011 for our multicellular therapy) is a disease modifying therapy with multi-functional properties including: tissue remodeling, immuno-modulation and the promotion of angiogenesis. Our proprietary cell-manufacturing technology enables the manufacture of multicellular therapies, expanded from an adult's own bone marrow, and delivered directly to damaged tissues. Preclinical and clinical data suggest that ixmyelocel-T may be effective in treating patients with severe, chronic ischemic cardiovascular diseases such as CLI. Preliminary data utilizing ixmyelocel-T in dilated cardiomyopathy (DCM) have provided indications of efficacy and safety. Nearly 200 patients have been treated in recent clinical trials using ixmyelocel-T (over 400 patients safely treated since our inception). We recently released positive Phase 2b data from our RESTORE-CLI trial and launched our pivotal Phase 3 REVIVE trial in CLI in February 2012. We also plan to start a randomized, placebo-controlled, double-blinded Phase 2b trial in DCM by mid-2012.

We are currently focused on utilizing our technology to produce expanded, patient specific multicellular products for use in severe, chronic ischemic cardiovascular indications. At such time as we satisfy applicable regulatory approval requirements, we expect the sales of our cell-based products to constitute nearly all of our product sales revenues.

We do not expect to generate positive cash flows from our consolidated operations for at least the next several years and then only if we achieve significant product sales. Until that time, we expect that our revenue sources from our current activities will consist of only minor sales of our cell products and manufacturing supplies to our academic collaborators, grant revenue, research funding and potential licensing fees or other financial support from potential future corporate collaborators.

Background of Exchange Offer

On December 15, 2010, we completed the sale of 10,000,000 units at a public offering price of \$2.25 per unit. Each unit consisted of one share of our common stock and a Warrant to purchase one share of our common stock at an exercise price of \$3.22 per share. The shares of common stock and Warrants were immediately separable and were issued separately. The Warrants to purchase 10,000,000 shares of our common stock were exercisable for a five year period commencing on December 15, 2010.

As of June 28, 2012, we have 2,333,334 Warrants outstanding to purchase shares of our common stock, at an exercise price of \$3.22 per share of common stock, which will expire on December 15, 2015. The Warrants contain certain anti-dilution provisions that limit our ability to consummate potential equity financings that are necessary to fund our business, and the potentially dilutive effect of these outstanding Warrants creates an overhang on our common stock, which we believe makes it more difficult to attract high quality, fundamental equity investors. By offering Warrant holders the opportunity to exchange their outstanding Warrants for common stock, we hope to encourage Warrant holders to exchange their Warrants immediately so that we can eliminate or reduce the Warrant overhang on our common stock, eliminate or reduce the uncertainty in the number of shares to be issued upon exercise of the Warrants caused by the potential for the anti-dilution protection in the Warrants and attract new high quality equity investors.

Exchange Offer

The following is a summary of the principal terms of the Exchange Offer. A more detailed description is contained in the Exchange Offer Statement under the section entitled "The Exchange Offer." As of the date of the Exchange Offer, there are 2,333,334 Warrants outstanding and eligible to participate in the Exchange Offer.

Exchange Offer	We are offering to holders of our outstanding Warrants exercisable for 2,333,334 shares of our common stock the opportunity to receive common stock in exchange for a specified number of Warrants.
Exchange Ratios	If you elect to exchange your Warrants, you will be entitled to elect to receive one (1) share of common stock for every two (2) Warrants that are tendered.
Expiration Date	The Exchange Offer will expire at 5:00 P.M., Eastern Standard Time, on July 27, 2012, unless we decide to extend it.
Procedure for Accepting the Exchange Offer	<p>You may tender your Warrants by completing the Letter of Transmittal attached hereto as Exhibit (a) (2).</p> <p>Please read "The Exchange Offer—Procedures for Tendering Warrants" for further information regarding procedure for accepting the Exchange Offer.</p>
Exchange Agent	Continental Stock Transfer & Trust Company ("Continental") is serving as the Exchange Agent in connection with the Exchange Offer. Deliveries should be addressed to Continental Stock Transfer & Trust Company, 17 Battery Place, 8 th Floor, New York, New York, 10004, Attention: Reorganization Department.
Conditions to the Exchange Offer	The Exchange Offer is subject to customary conditions, which we may waive. Please read "The Exchange Offer—Conditions to the Exchange Offer" for more information regarding the conditions to the Exchange Offer.
Withdrawal	You may withdraw any Warrants tendered in the Exchange Offer at any time prior to 5:00 P.M., Eastern Standard Time, on July 27, 2012. For further information regarding the withdrawal of tendered Warrants, please read "The Exchange Offer—Withdrawal Rights."
Rejection or Failure to Accept the Exchange Offer	If you reject or fail to accept the Exchange Offer, your Warrants will remain outstanding until they expire or are exercised by their original terms.
Use of Proceeds	We will not receive any proceeds from this Exchange Offer. Please read "Use of Proceeds."
Fees and Expenses	We will pay all of our expenses incident to the Exchange Offer.

Risk Factors

Tendering your Warrants in exchange for common stock involves substantial risk. Please read "Risk Factors" beginning on page 5 for a discussion of certain factors you should consider in evaluating whether to tender your Warrants in the Exchange Offer.

Section 3(a)(9) Exemption

The shares of common stock to be issued in the Exchange Offer will be issued pursuant to the exemption from registration under the Securities Act provided by Section 3(a)(9) thereof. Accordingly, to the extent tendered Warrants are freely tradable and unrestricted, the shares of our common stock received in exchange will similarly be freely tradable and unrestricted. To the extent the Warrants tendered are restricted securities within the meaning of the Securities Act, the shares of common stock issued in exchange will also be restricted securities.

U.S. Federal Income Tax Considerations

Although certain tax aspects of participation in the Exchange Offer are not entirely clear, it is expected that the exchange of Warrants for common stock in the Exchange Offer should not be a taxable event for U.S. federal income tax purposes. However, no ruling of any governmental authority and no opinion of counsel has been issued or rendered on these matters and the characterizations we intend to follow may be rejected, or determined to be inappropriate in the case of particular holders, by the applicable taxing authorities. Thus Warrantholders must rely on the advice of their own tax advisors in assessing these matters.

For a general discussion of certain tax considerations, please read "Certain Tax Consequences of the Exchange Offer—Certain U.S. Federal Income Tax Consequences to U.S. Holders."

RISK FACTORS

You should carefully consider each of the risks described below, together with all of the other information set forth elsewhere or incorporated by reference into this Exchange Offer Statement before deciding to accept or reject the Exchange Offer. If any of the following risks develops into actual events, our business, financial condition or results of operations could be negatively affected, and you may lose all or part of your investment.

You should also refer to the risk factors included in our public filings, which are incorporated by reference herein, for additional risk factors relating to our business, the industry in which we operate and an investment in our common stock.

Risks Related to the Exchange Offer

There is no assurance that our Exchange Offer will achieve its desired effect of providing incentives to our holders of Warrants to exchange their Warrants.

One of the important purposes of the Exchange Offer is to provide incentives for our Warrantholders to exchange their Warrants, thereby eliminating or significantly reducing our Warrant overhang and attracting additional investors for our common stock. The decision of a holder to take such actions could be influenced by a number of factors including the market price of our common stock, our future business prospects and the individual financial circumstances of a Warrantholder. Although a significant percentage of the Warrants have already been exchanged, there can be no assurance that the remaining holders of Warrants will exchange such Warrants in the Exchange Offer.

The issuance of additional common stock upon the exchange of tendered Warrants will dilute our existing shareholders as well as our future shareholders.

If the holders of our Warrants accept the Exchange Offer, we will issue additional shares of common stock. The issuance will dilute the ownership by other holders of our common stock.

We did not obtain a "fairness opinion" in connection with the Exchange Offer.

The exchange ratio has been set based on factors deemed relevant by our Board of Directors, and the Board of Directors approved the exchange ratio. We have not obtained outside advice or any opinion of an investment banker with respect to the fairness of the exchange ratio either to Warrantholders or to holders of our common stock.

Tax Risks

No rulings or opinions have been received as to the tax consequences of the Exchange Offer to holders of Warrants.

The tax consequences that will result to a holder of Warrants that participates in the Exchange Offer is not well defined by the existing authorities. No ruling of any governmental authority and no opinion of counsel has been issued or rendered on these matters, and the characterizations we intend to follow may be rejected, or determined to be inappropriate in the case of particular holders, by the applicable taxing authorities. Thus Warrantholders must rely on the advice of their own tax advisors in assessing these matters. For a general discussion of certain tax considerations, please read "Certain Tax Consequences of the Exchange Offer—Certain U.S. Federal Income Tax Consequences to U.S. Holders."

USE OF PROCEEDS

We will not receive any proceeds from the Exchange Offer.

CAPITALIZATION

The following table shows our capitalization, as of March 31, 2012, and as adjusted to reflect the Exchange Offer. For purposes of this table, we have:

- assumed that 100% of the Warrants outstanding as of the date hereof, exercisable for 2,333,334 shares of our common stock, are exchanged for 1,166,667 shares of our common stock (one (1) share of common stock for every two (2) Warrants that are tendered); and
- included 100% of the 3,833,334 shares of our common stock issued upon exchange of certain Warrants on June 27, 2012, exercisable for 7,666,666 shares of our common stock, as set forth in "The Exchange Offer—Warrant Exchange Agreements" herein.

There is no assurance that all Warrantholders will exchange their Warrants in the Exchange Offer.

<u>(In thousands)</u>	March 31, 2012 (Unaudited)		
	Actual	Adjustments	Pro Forma
Cash and cash equivalents	\$ 36,733		\$ 36,733
Warrant liabilities	17,525	(13,200)(1)	4,325
Series B-1 non-voting convertible preferred stock, no par value; shares authorized and reserved—zero and 39, respectively; shares issued and outstanding—zero and 12, respectively	38,012		38,012
Stockholders' deficit:			
Common stock, no par value; shares authorized—150,000; 38,756 shares issued and outstanding on an actual basis; and 43,756 shares issued and outstanding on an as adjusted basis	229,868	11,400(2)	241,268
Deficit accumulated during the development stage	(251,592)	1,800(3)	(249,792)
Total stockholders' deficit	(21,724)	13,200	(8,524)
Total Capitalization	33,813	—	33,813

- (1) *Extinguishment of Warrant liability.* Reflects the adjustment to extinguish the Warrant liability, as if all Warrants were exchanged for our common stock on March 31, 2012.
- (2) *Issuance of common stock.* Reflects adjustments assuming all Warrants were exchanged for our common stock on March 31, 2012, and assuming the March 31, 2012 closing market price of our common stock was equal to the June 19, 2012 closing market price of \$2.28 per share of common stock.
- (3) *Non-recurring gain.* Reflects a non-recurring gain assuming all Warrants were exchanged for common stock on March 31, 2012, and assuming the March 31, 2012 closing market price of our common stock was equal to the June 19, 2012 closing market price of \$2.28 per share of common stock.

DIVIDEND POLICY

We have not, since our initial public offering, paid any dividends on our shares of common stock. We currently intend to retain cash from operations in the future for the development of our business and do not currently anticipate paying dividends on our shares of common stock.

PRO FORMA FINANCIAL INFORMATION (UNAUDITED)

The accompanying pro forma consolidated financial statements do not purport to represent what our results of operations would have been had such transactions and events occurred on the dates specified, or to project our results of operations for any future period or date. The pro forma adjustments are based on available information and certain adjustments that our management believes are reasonable. In the opinion of our management, all adjustments have been made that are necessary to present fairly the unaudited pro forma consolidated data.

The following shows our pro forma consolidated balance sheet as of March 31, 2012, the consolidated statements of operations for the quarter ended March 31, 2012 and the consolidated statements of operations for the year ended December 31, 2011. All of the pro forma financial information set forth herein assumes that 100% of the outstanding Warrants are exchanged in the Exchange Offer; however, there is no assurance that all of the Warrantholders will exchange their Warrants in the Exchange Offer.

Pro Forma Consolidated Balance Sheet (Unaudited)

For purposes of the pro forma consolidated balance sheet, we have:

- assumed that 100% of the Warrants outstanding as of the date hereof, exercisable for 2,333,334 shares of our common stock, are exchanged for 1,166,667 shares of our common stock (one (1) share of common stock for every two (2) Warrants that are tendered); and
- included 100% of the 3,833,334 shares of our common stock issued upon exchange of certain Warrants on June 27, 2012, exercisable for 7,666,666 shares of our common stock, as set forth in "The Exchange Offer—Warrant Exchange Agreements" herein.

Our book value per share as of March 31, 2012 was (\$0.56). With the assumptions set forth above, the pro forma book value per share as of March 31, 2012 is (\$0.19).

(in thousands)	March 31, 2012		
	Actual	(Unaudited) Adjustments	Pro Forma
ASSETS			
Current assets:			
Cash and cash equivalents	\$ 36,733		\$ 36,733
Receivables	11		11
Prepaid expenses and other current assets	453		453
Total current assets	37,197		37,197
Property & equipment, net	1,467		1,467
Total assets	\$ 38,664		\$ 38,664
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT			
Current liabilities:			
Accounts payable and accrued expenses	\$ 3,384		\$ 3,384
Accrued employee benefits	1,398		1,398
Current portion of long term debt	40		40
Warrant liabilities	17,525	(13,200)(1)	4,325
Total current liabilities	22,347	(13,200)(1)	9,147
Long-term debt	29		29
Total liabilities	22,376	(13,200)(1)	9,176
Series B-1 non-voting convertible preferred stock, no par value; shares authorized and reserved—39; shares issued and outstanding—12	38,012		38,012
Stockholders' deficit			
Common stock, no par value; shares authorized—150,000; 38,756 shares issued and outstanding on an actual basis; and 43,756 shares issued and outstanding on an as adjusted basis	229,868	11,400(2)	241,268
Deficit accumulated during the development stage	(251,592)	1,800(3)	(249,792)
Total stockholders' deficit	(21,724)	13,200	(8,524)
Total liabilities, convertible preferred stock and stockholders' deficit	\$ 38,664	—	\$ 38,664

- (1) *Extinguishment of Warrant liability.* Reflects the adjustment to extinguish the Warrant liability, as if all Warrants were exchanged for common stock on March 31, 2012.
- (2) *Issuance of common stock.* Reflects adjustments assuming all Warrants were exchanged for common stock on March 31, 2012, and assuming the March 31, 2012 closing market price of our common stock was equal to the June 19, 2012 closing market price of \$2.28 per share of common stock.
- (3) *Non-recurring gain.* Reflects a non-recurring gain assuming all Warrants were exchanged for common stock on March 31, 2012, and assuming the March 31, 2012 closing market price of our common stock was equal to the June 19, 2012 closing market price of \$2.28 per share of common stock.

Sensitivity Analysis

The actual impact on shareholders' deficit upon completion of the Exchange Offer is not known, and could result in a wide range of possibilities. The factors which could change between now and the completion of the Exchange Offer, and would therefore yield a materially different result from that presented above, include the closing market price for our common stock on the date the Exchange Offer ends.

To the extent less than 100% of the Warrants are tendered for shares of common stock pursuant to the Exchange Offer, and therefore some number of Warrants remains outstanding, a Warrant liability reflecting the market value of those untendered Warrants will remain on the balance sheet until the future exercise or expiration of those Warrants.

Pro Forma Consolidated Statements of Operations (Unaudited)

The following shows our pro forma consolidated statements of operations for the quarter ended March 31, 2012 and the year ended December 31, 2011, reflecting the Exchange Offer. For purposes of these statements, we have:

- assumed that 100% of the Warrants outstanding as of the date hereof, exercisable for 2,333,334 shares of our common stock, are exchanged for 1,166,667 shares of our common stock (one (1) share of common stock for every two (2) Warrants that are tendered); and
- included 100% of the 3,833,334 shares of our common stock issued upon exchange of certain Warrants on June 27, 2012, exercisable for 7,666,666 shares of our common stock, as set forth in "The Exchange Offer—Warrant Exchange Agreements" herein.

Note that the non-recurring gain, included as an adjustment to deficit accumulated during the development stage in the pro forma consolidated balance sheet above, has not been reflected in the

pro forma statements of operations below, but a non-recurring gain or loss will likely be incurred when the impact of the actual Exchange Offer is reflected in our future consolidated financial statements.

(in thousands, except per share amounts)	Quarter Ended March 31, 2012			Year Ended December 31, 2011		
	Actual	Adjustment	Pro Forma	Actual	Adjustment	Pro Forma
Revenues:						
Product sales and rentals	\$ 2		\$ 2	\$ 18		\$ 18
Research and development agreements	—		—	—		—
Grants	—		—	—		—
Total revenues	2		2	18		18
Costs and expenses:						
Cost of product sales and rentals	2		2	4		4
Research and development	6,796		6,796	21,330		21,330
Selling, general and administrative	1,762		1,762	7,724		7,724
Total costs and expenses	8,560		8,560	29,058		29,058
Loss from operations	(8,558)		(8,558)	(29,040)		(29,040)
Other (loss) income:						
(Increase) decrease in fair value of Warrants	(900)	1,100(1)	200	9,329	(6,014)(1)	3,315
Other income	—		—	—		—
Interest income	6		6	53		53
Interest expense	(3)		(3)	(10)		(10)
Total other income (expense)	(897)	1,100	203	9,372	(6,014)	3,358
Net loss	(9,455)	1,100	(8,355)	(19,668)	(6,014)	(25,682)
Accretion of convertible preferred stock	289	—	289	—		—
Net loss attributable to common shareholders	\$ (9,744)	\$ 1,100	\$ (8,644)	\$ (19,668)	\$ (6,014)	\$ (25,682)
Net loss per share attributable to common shareholders (Basic and Diluted)	\$ (0.25)	\$ 0.20	\$ (0.20)	\$ (0.51)	\$ (1.20)	\$ (0.59)
Weighted average number of common shares outstanding (Basic and Diluted)	38,742	5,000(2)	43,742	38,627	5,000(2)	43,627

- (1) *Extinguishment of Warrant liability.* Reflects an adjustment to remove the (increase) decrease in fair value of Warrants recorded during the periods presented, as if all Warrants were exchanged for common stock on January 1, 2011.
- (2) *Issuance of common stock.* Reflects adjustments to weighted average shares outstanding, as if all Warrants were exchanged for common stock on January 1, 2011. This assumes that holders of all Warrants exchanged their Warrants for common stock pursuant to the Exchange Offer.

Sensitivity Analysis

For the pro forma income statements shown above, we have:

- assumed that 100% of the Warrants outstanding as of the date hereof, exercisable for 2,333,334 shares of our common stock, are exchanged for 1,166,667 shares of our common stock (one (1) share of common stock for every two (2) Warrants that are tendered); and
- included 100% of the 3,833,334 shares of our common stock issued upon exchange of certain Warrants on June 27, 2012, exercisable for 7,666,666 shares of our common stock, as set forth in "The Exchange Offer—Warrant Exchange Agreements" herein.

To the extent less than 100% of the Warrants are tendered for shares of Common Stock pursuant to the Exchange Offer, and therefore some number of Warrants remains outstanding, the adjustments to (increase) decrease in fair value of Warrants, weighted average shares outstanding, and therefore net (loss) income per share, would be different than those presented above.

The following table illustrates the impact, relative to the pro forma income statements presented above, for every 1,000,000 Warrants not exchanged:

<u>(In thousands, except EPS data)</u>	<u>Quarter Ended</u> <u>March 31, 2012</u>	<u>Year Ended</u> <u>December 31, 2011</u>
Net (loss) income attributable to common shareholders	\$ (110)	\$ 601
Net (loss) income per share attributable to common shareholders—basic and diluted	\$ (0.02)	\$ 0.12

PRICE RANGE OF COMMON STOCK

Price Range of Our Common Stock

Our common stock is currently quoted on the NASDAQ Stock Market under the symbol "ASTM". You should evaluate current market prices for our common stock, among other factors, before deciding whether or not to tender your Warrants in the Exchange Offer. The following table sets forth the high and low closing prices per share of common stock as reported on the NASDAQ Stock Market. Prices per share of our common stock have been adjusted for the eight-for-one reverse stock split on February 18, 2010 on a retroactive basis.

	<u>High</u>	<u>Low</u>
<u>2010</u>		
First Quarter	\$ 2.72	\$ 1.43
Second Quarter	1.88	1.34
Third Quarter	1.61	1.40
Fourth Quarter	4.20	1.44
<u>2011</u>		
First Quarter	\$ 3.25	\$ 2.06
Second Quarter	3.27	2.48
Third Quarter	2.89	2.01
Fourth Quarter	2.75	1.79
<u>2012</u>		
First Quarter	\$ 2.20	\$ 1.78
April 1, 2012 through June 19, 2012	2.64	1.94

THE EXCHANGE OFFER

Purpose of the Exchange Offer

As of June 28, 2012, we have 2,333,334 Warrants, exercisable for 2,333,334 shares of our common stock, outstanding. Each Warrant is exercisable for one (1) share of our common stock, at an exercise price of \$3.22 per share. The Warrants expire on December 15, 2015. We are offering holders of Warrants, upon the terms and subject to the conditions set forth in the Exchange Offer, the right to exchange their Warrants for common stock. Holders may accept the Exchange Offer and may elect to exchange their Warrants at a rate of one (1) share of common stock for every two (2) Warrants that are tendered. You may tender all or any number of Warrants that you hold.

The shares of common stock to be issued in the Exchange Offer will be issued pursuant to the exemption from registration under the Securities Act provided by Section 3(a)(9) thereof. Accordingly, to the extent tendered Warrants are freely tradable and unrestricted, the shares of common stock received in exchange will similarly be freely tradable and unrestricted. To the extent the Warrants tendered are restricted securities within the meaning of the Securities Act, the shares of common stock issued in exchange will also be restricted securities.

The Warrants could require net cash settlement in the event that registered shares are not available at the time of exercise of such Warrant. The 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, subject to certain exceptions and exclusions. In the event of such a subsequent issuance of common stock of the Company, the exercise price of the Warrants would be adjusted to the price per share of the subsequently issued shares of its common stock or securities exercisable or convertible into shares of common stock, as outlined in the Warrant Agreement dated as of December 15, 2010.

The anti-dilution provisions in the Warrants limit our ability to consummate potential equity financings that are necessary to fund our business, without triggering the anti-dilution provisions. Additionally, the potentially dilutive effect of our outstanding Warrants creates an overhang on our common stock, which we believe makes it more difficult to attract high quality, fundamental equity investors. By offering Warranholders the opportunity to exchange their outstanding Warrants for common stock, we hope to encourage Warranholders to exchange their Warrants immediately so that we can eliminate or reduce the Warrant overhang on our common stock, eliminate or reduce the uncertainty in the number of shares to be issued upon exercise of the Warrants caused by the potential for the anti-dilution protection in the Warrants and attract new high quality equity investors.

This is a one time offer and you should take this into account in deciding whether to participate and tender your outstanding Warrants pursuant to the Exchange Offer.

Board Approval

To our knowledge, none of our directors, executive officers or controlling persons, or any of their affiliates, beneficially own any Warrants or will be tendering any Warrants pursuant to the Exchange Offer.

Neither we, our management nor our Board makes any recommendation as to whether you should tender your Warrants or not. You should not consider Board approval of the Exchange Offer to be a recommendation as to whether you should participate or not participate in the Exchange Offer. You must make your own decision whether to participate in the Exchange Offer and tender your Warrants.

Warrant Exchange Agreements

On June 27, 2012, we entered into separate warrant exchange agreements with funds managed by Heights Capital Management, Great Point Partners, LLC, Deerfield Capital Corp. and Millennium International Management LP, certain holders of then-outstanding Warrants, pursuant to which such Warrantholders exchanged warrants for shares of our common stock. Under the terms of these warrant exchange agreements, such Warrantholders received one (1) share of our common stock for every two (2) Warrants exchanged, for an aggregate of 3,833,334 shares of our common stock issued to such Warrantholders, effective as of June 27, 2012.

The form of warrant exchange agreement is filed as Exhibit 10.1 to our Report on Form 8-K, filed on June 27, 2012, incorporated herein by reference. The foregoing is only a brief description of the material terms of the warrant exchange agreements, does not purport to be a complete description of the rights and obligations of the parties thereunder and is qualified in its entirety by reference to such exhibit.

As of June 27, 2012, requisite holders of the Warrants agreed that shares of our common stock issued in exchange for the Warrants, pursuant to the warrant exchange agreements or this Exchange Offer, would not trigger any adjustment to the exercise price of the Warrants.

Eligibility

We are making the Exchange Offer to holders of all of our 2,333,334 outstanding Warrants. The Exchange Offer is only being made for outstanding, unexercised Warrants and does not in any way apply to Warrants which have previously been exercised, which there have been none. Warrants for which you have properly submitted an exercise form and the exercise price prior to the date of the commencement of the Exchange Offer will be considered exercised to that extent and unavailable for tender in the Exchange Offer, whether or not you have received confirmation of the exercise or the common stock purchased.

Exchange of Warrants

If you properly tender your outstanding Warrants pursuant to the Exchange Offer, your Warrants will be cancelled upon expiration of the Exchange Offer. We will issue common stock to be delivered to you pursuant to the Exchange Offer along with cash for any fractional shares of common stock, promptly following expiration of the Exchange Offer.

You are not required to tender all of your Warrants. If you tender less than all of your Warrants, however, the remaining Warrants not tendered will remain outstanding on their current terms (including the \$3.22 exercise price) until they expire on December 15, 2015 or are exercised on their current terms.

Procedures for Tendering Warrants

You do not have to participate in the Exchange Offer. If you decide not to participate in the Exchange Offer, you do not need to do anything and your Warrants will remain outstanding until they expire by their terms or are exercised.

To participate in the Exchange Offer, you must properly complete, sign and date the Letter of Transmittal included with this Exchange Offer Statement and mail or otherwise deliver to the Exchange Agent the Letter of Transmittal and your Warrants so that the Exchange Agent receives them no later than 5:00 P.M., Eastern Standard Time, on July 27, 2012, the expiration of the Exchange Offer (or such later date and time if we extend the Exchange Offer), at the address set forth in the Letter of Transmittal. Delivery of the Letter of Transmittal by facsimile or email will not be accepted.

The Letter of Transmittal must be executed by the record holder of the tendered Warrants. However, if the signature is by a trustee, executor, administrator, guardian, attorney-in-fact, officer of a corporation or another person acting in a fiduciary or representative capacity, the signer's full title and proper evidence of the authority of such person to act in such capacity must be indicated on the Letter of Transmittal.

If you do not submit a Letter of Transmittal for your Warrants prior to the expiration of the Exchange Offer, or if you submit an incomplete or incorrectly completed Letter of Transmittal, you will be considered to have rejected the Exchange Offer.

THE METHOD OF DELIVERY OF WARRANTS, THE LETTER OF TRANSMITTAL AND ALL OTHER REQUIRED DOCUMENTS TO COMPANY IS AT THE ELECTION, EXPENSE AND RISK OF THE HOLDER. INSTEAD OF DELIVERY BY MAIL, IT IS RECOMMENDED THAT HOLDERS USE AN OVERNIGHT OR HAND DELIVERY SERVICE AND THE DELIVERY WILL BE DEEMED MADE ONLY WHEN ACTUALLY RECEIVED OR CONFIRMED BY THE COMPANY. IN ALL CASES, SUFFICIENT TIME SHOULD BE ALLOWED TO ASSURE DELIVERY TO THE COMPANY BEFORE THE EXPIRATION DATE. NO LETTER OF TRANSMITTAL OR WARRANTS SHOULD BE SENT TO THE COMPANY. HOLDERS MAY REQUEST THEIR RESPECTIVE BROKERS, DEALERS, COMMERCIAL BANKS, TRUST COMPANIES OR NOMINEES TO EFFECT THE ABOVE TRANSACTIONS FOR SUCH HOLDERS.

Guaranteed Delivery Procedures

If you are a registered holder of Warrants, you may elect to tender your Warrants prior to the Expiration Time; provided:

(1) the tender is made through an eligible institution;

(2) prior to the Expiration Time, the Exchange Agent receives, by facsimile transmission, mail or hand delivery, from that eligible institution a properly completed and duly executed Letter of Transmittal and a notice of guaranteed delivery, stating:

- the name and address of the holder of the Warrants;
- the number of shares of common stock issuable upon exercise of the Warrants;
- the tender is being made by delivering such notice and guaranteeing that within three NASDAQ Stock Market trading days after the Expiration Date, a book-entry confirmation will be deposited by that eligible institution with the Exchange Agent; and

(3) a book-entry confirmation is received by the Exchange Agent within three NASDAQ trading days after the Expiration Date.

Withdrawal Rights

You may change your election and withdraw your tendered Warrants only if you properly complete, sign and date the Withdrawal Form included with the Exchange Offer and mail or otherwise deliver the Withdrawal Form to the Exchange Agent so that the Exchange Agent receives it no later than 5:00 P.M., Eastern Standard Time, on July 27, 2012, at the address set forth below under "Exchange Agent". You may also withdraw your tendered Warrants pursuant to Rule 13e-4(f)(2) (ii) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, if they have not been accepted by us for payment within 40 business days from the commencement of the Exchange Offer. Delivery of the Withdrawal Form by facsimile or email will not be accepted.

The Withdrawal Form must be executed by the record holder of the Warrants to be withdrawn. However, if the signature is by a trustee, executor, administrator, guardian, attorney-in-fact, officer of a corporation or another person acting in a fiduciary or representative capacity, the signer's full title and proper evidence of the authority of such person to act in such capacity must be indicated on the Withdrawal Form.

If we extend the Exchange Offer, are delayed in our acceptance for tender of Warrants or are unable to accept Warrants for exchange pursuant to the Exchange Offer for any reason, then, without prejudice to our rights under the Exchange Offer, the Exchange Agent may, nevertheless, on behalf of the holders, retain tendered Warrants, and such Warrants may not be withdrawn, except to the extent that tendering holders are entitled to withdrawal rights as described herein.

Withdrawals of Warrants may not be rescinded. Any Warrants properly withdrawn will thereafter be deemed not to have been validly tendered for purposes of the Exchange Offer. However, withdrawn Warrants may be re-tendered by again following one of the procedures described in the Exchange Offer at any time prior to the Expiration Date.

Any beneficial owner whose interests in the Warrants are registered in the name of a broker, dealer, commercial bank, trust company, nominee or other securities intermediary and who wishes to withdraw previously tendered Warrants should contact such securities intermediary promptly and instruct such securities intermediary to withdraw previously tendered Warrants on such beneficial owner's behalf.

ALL QUESTIONS AS TO THE FORM AND VALIDITY (INCLUDING TIME OF RECEIPT) OF ANY NOTICE OF WITHDRAWAL WILL BE DETERMINED BY THE COMPANY, IN ITS SOLE DISCRETION, WHOSE DETERMINATION WILL BE FINAL AND BINDING. NONE OF THE COMPANY, THE EXCHANGE AGENT OR ANY OTHER PERSON WILL BE UNDER ANY DUTY TO GIVE NOTIFICATION OF ANY DEFECTS OR IRREGULARITIES IN ANY NOTICE OF WITHDRAWAL OR INCUR ANY LIABILITY FOR FAILURE TO GIVE ANY SUCH NOTIFICATION.

THE METHOD OF DELIVERY OF YOUR WITHDRAWAL FORM TO THE EXCHANGE AGENT IS AT THE ELECTION, EXPENSE AND RISK OF THE HOLDER. INSTEAD OF DELIVERY BY MAIL, IT IS RECOMMENDED THAT HOLDERS USE AN OVERNIGHT OR HAND DELIVERY SERVICE AND THE DELIVERY WILL BE DEEMED MADE ONLY WHEN ACTUALLY RECEIVED OR CONFIRMED BY THE EXCHANGE AGENT. IN ALL CASES, SUFFICIENT TIME SHOULD BE ALLOWED TO ASSURE DELIVERY TO THE EXCHANGE AGENT BEFORE THE EXPIRATION DATE. NO WITHDRAWAL LETTER SHOULD BE SENT TO THE COMPANY. HOLDERS MAY REQUEST THEIR RESPECTIVE BROKERS, DEALERS, COMMERCIAL BANKS, TRUST COMPANIES OR NOMINEES TO EFFECT THE ABOVE TRANSACTIONS FOR SUCH HOLDERS. DELIVERY OF DOCUMENTS TO THE BOOK-ENTRY TRANSFER FACILITY DOES NOT CONSTITUTE DELIVERY TO THE EXCHANGE AGENT.

Signature Guarantees

Signatures on all Letters of Transmittal must be guaranteed by a recognized participant in the Securities Transfer Agents Medallion Program, the New York Stock Exchange Medallion Signature Program or the Stock Exchange Medallion Program (a "Medallion Signature Guarantor"), unless the Letter of Transmittal is delivered, and any Warrants tendered thereby are tendered (i) by a registered holder of Warrants (or by a participant in DTC whose name appears on a security position listing as the owner of such Warrants) who has not completed either the box entitled "Special Delivery Instructions" or "Special Issuance Instructions" on the Letter of Transmittal or (ii) for the account of a member firm of a registered national securities exchange, a member of the Financial Industry

Regulatory Authority or a commercial bank or trust company having an office or correspondent in the United States (each of the foregoing being referred to as an "Eligible Institution"). If the Warrants are registered in the name of a person other than the signer of the Letter of Transmittal, or if Warrants not accepted for exchange or not tendered are to be returned to a person other than such Holder, then the signatures on the Letters of Transmittal accompanying the tendered Warrants must be guaranteed by a Medallion Signature Guarantor as described above.

Exchange Agent

Continental Stock Transfer & Trust Company has been appointed as Exchange Agent for the Exchange Offer.

Continental Stock Transfer & Trust Company
17 Battery Place, 8th Floor
New York, New York, 10004
Attention: Reorganization Department

Determination of Validity; Rejection of Warrants; Waiver of Defects; No Obligation to Give Notice of Defects

We will determine, in our discretion, all questions as to form, validity, including time of receipt, eligibility and acceptance of any tender of Warrants or withdrawal of tendered Warrants. Our determination of these matters will be final and binding on all parties. We may reject any or all tenders of or withdrawals of tendered Warrants that we determine are not in appropriate form or that we determine are unlawful to accept or not timely made. Otherwise, we expect to accept all properly and timely tendered Warrants which are not validly withdrawn. We may waive, as to all eligible Warrantholders, any defect or irregularity in any tender with respect to any particular Warrant. Any waiver granted as to one Warrantholder will be afforded to all holders of Warrants. We may also waive any of the conditions of the Exchange Offer, so long as such waiver is made with respect to all Warrantholders. No tender of Warrants or withdrawal of tendered Warrants will be deemed to have been properly made until all defects or irregularities have been cured by the tendering Warrantholder or waived by us. **NEITHER WE NOR ANY OTHER PERSON IS OBLIGATED TO GIVE NOTICE OF ANY DEFECTS OR IRREGULARITIES IN TENDERS OR WITHDRAWALS, AND NO ONE WILL BE LIABLE FOR FAILING TO GIVE NOTICE OF ANY DEFECTS OR IRREGULARITIES.**

Acceptance of Warrants; Issuance of Common Stock

The Exchange Offer is scheduled to expire at 5:00 P.M., Eastern Standard Time, on July 27, 2012 (subject to our right to extend the Exchange Offer).

Upon the terms and subject to the conditions of the Exchange Offer, we expect, upon and as of the expiration of the Exchange Offer, to:

- accept for exchange Warrants properly tendered and not validly withdrawn pursuant to the Exchange Offer;
- issue common stock in exchange for tendered Warrants pursuant to the Exchange Offer; and
- pay a market cash value in lieu of the receipt of fractional shares of common stock by Warrantholders.

If you elect to tender your Warrants pursuant to the Exchange Offer and you do so according to the procedures described herein, you will have accepted the Exchange Offer. Our acceptance of your outstanding Warrants for tender in the Exchange Offer will form a binding agreement between you and

us upon the terms and subject to the conditions of the Exchange Offer upon the expiration of the Exchange Offer.

If you elect not to participate in the Exchange Offer, your Warrants will remain outstanding until they expire or are exercised by their original terms.

Extension of the Exchange Offer; Termination; Amendment

Although we do not currently intend to do so, we may, from time to time, at our discretion, extend the Exchange Offer at any time. If we extend the Exchange Offer, we will continue to accept validly tendered Warrants until the new expiration date.

We also expressly reserve the right, in our reasonable judgment, prior to the Expiration Date, to terminate or amend the Exchange Offer and to postpone our acceptance of any tendered Warrant upon the occurrence of any of the conditions specified below under "The Exchange Offer—Conditions to the Exchange Offer".

Extension or amendments to, or a termination of, the Exchange Offer may be made at any time and from time to time by an announcement. In the case of an extension, the announcement must be issued no later than 9:00 A.M., Eastern Standard Time, on the next business day after the last previously scheduled or announced Expiration Date. Any announcement made pursuant to the Exchange Offer will be disseminated promptly to holders of Warrants in a manner reasonably designed to inform such holders of such amendment. Without limiting the manner in which we may choose to make an announcement, except as required by applicable law, we have no obligation to publish, advertise or otherwise communicate any such announcement other than by issuing a press release.

If we materially change the terms of the Exchange Offer or the information concerning the Exchange Offer, or if we waive a material condition of the Exchange Offer, we will extend the Exchange Offer to the extent required by Rules 13e-4(d)(2) and 13e-4(e)(3) under the Exchange Act. These rules require that the minimum period during which an offer must remain open following material changes in the terms of the offer or information concerning the offer, other than a change in price or a change in percentage of securities sought, will depend on the facts and circumstances, including the relative materiality of such terms or information.

Conditions to the Exchange Offer

Notwithstanding any other provision of the Exchange Offer, we will not be required to accept any tendered Warrants, and we may terminate or amend the Exchange Offer, or postpone our acceptance of any tendered Warrants, if at any time on or after the commencement of the Exchange Offer and before the Expiration Date of the Exchange Offer, any of the following events has occurred, or has been determined by us to have occurred, and, in our reasonable judgment in any case and regardless of the circumstances giving rise to the event, including any action or omission to act by us, the occurrence of such event or events makes it inadvisable for us to proceed with the Exchange Offer or with the acceptance of the tendered Warrants:

(a) there shall have been threatened or instituted or be pending any action or proceeding by any government or governmental, regulatory or administrative agency, authority or tribunal or any other person, domestic or foreign, before any court, authority, agency or tribunal that directly or indirectly challenges the making of the Exchange Offer, the issuance of common stock, or otherwise relates in any manner to the Exchange Offer or that, in our reasonable judgment, could materially and adversely affect our business, condition (financial or other), income, operations or prospects, or otherwise materially impair in any way the contemplated future conduct of our business or materially impair the contemplated benefits of the Exchange Offer to us;

(b) there shall have been any action threatened, pending or taken, or approval withheld, or any statute, rule, regulation, judgment, order or injunction threatened, proposed, sought, promulgated, enacted, entered, amended, enforced or deemed to be applicable to the Exchange Offer or us, by any court or any authority, agency or tribunal that, in our reasonable judgment, would or might directly or indirectly:

- make the acceptance of the Warrants tendered illegal or otherwise restrict or prohibit consummation of the Exchange Offer or otherwise relates in any manner to the Exchange Offer;
- delay or restrict our ability, or render us unable, to accept some or all of the Warrants tendered;
- materially impair the benefits we hope to receive as a result of the Exchange Offer; or
- materially and adversely affect our business, condition (financial or other), income, operations or prospects, or otherwise materially impair in any way the contemplated future conduct of our business or materially impair the contemplated benefits of the Exchange Offer to us;

(c) there shall have occurred:

- the declaration of a banking moratorium or any suspension of payments in respect of banks in the United States, whether or not mandatory;
- the commencement of a war, terrorist act, armed hostilities or other international or national crisis directly or indirectly involving the United States;
- any limitation, whether or not mandatory, by any governmental, regulatory or administrative agency or authority on, or any event that in our reasonable judgment might affect, the extension of credit by banks or other lending institutions in the United States;
- any significant decrease in the market price of our common stock or any change in the general political, market, economic or financial conditions in the United States or abroad that could, in our reasonable judgment, have a material adverse effect on our business, condition (financial or other), operations or prospects or on the trading in our common stock;
- any change in the general political, market, economic or financial conditions in the United States or abroad that could have a material adverse effect on our business, condition (financial or other), operations or prospects or that, in our reasonable judgment, makes it inadvisable to proceed with the Exchange Offer; or
- in the case of any of the foregoing existing at the time of the commencement of the Exchange Offer, a material acceleration or worsening thereof;

(d) a tender or exchange offer with respect to some or all of our common stock, or a merger or acquisition proposal for us, shall have been proposed, announced or made by another person or entity or shall have been publicly disclosed, or we shall have learned that:

- any person, entity or "group," within the meaning of Section 13(d)(3) of the Exchange Act, shall have acquired or proposed to acquire beneficial ownership of more than 5% of our outstanding common stock, or any new group shall have been formed that beneficially owns more than 5% of our outstanding common stock, other than any such person, entity or group that has filed a Schedule 13D or Schedule 13G with the SEC before the Expiration Date;
- any such person, entity or group that has filed a Schedule 13D or Schedule 13G with the SEC before the Expiration Date shall have acquired or proposed to acquire beneficial ownership of an additional 2% or more of our outstanding common stock; or

- any person, entity or group shall have filed a Notification and Report Form under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 or made a public announcement reflecting an intent to acquire us or any of our assets or securities; or

(e) any change or changes shall have occurred in our business, condition (financial or other), assets, income, operations, prospects or stock ownership that, in our judgment, is or may be material to us.

The foregoing conditions to the Exchange Offer are for our benefit. We may assert them in our discretion regardless of the circumstances giving rise to them prior to the expiration.

In addition to the foregoing, we may waive any of the conditions to the Exchange Offer, in whole or in part, at any time and from time to time prior to the expiration, in our discretion, whether or not we waive any other condition to the Exchange Offer. Our failure at any time to exercise any of these rights will not be deemed a waiver of any such rights. The waiver of any of these rights with respect to particular facts and circumstances will not be deemed a waiver with respect to any other facts and circumstances. Any determination we make concerning the events described above will be final and binding upon all persons.

Source and Amount of Consideration; Description of Warrants

The maximum number of shares of common stock we could be required to issue in the Exchange Offer would be 1,166,667 shares of our common stock. The 1,166,667 shares of common stock issuable upon exchange of the Warrants would constitute approximately 2% of our common stock outstanding as of June 28, 2012. We will issue shares of our common stock in the Exchange Offer from authorized but unissued shares.

Description of Outstanding Warrants Subject to the Exchange Offer

Each outstanding Warrant entitles the registered holder to purchase one (1) share of common stock at an exercise price per share of \$3.22. The Warrants are fully exercisable until December 15, 2015. All of our Warrants contain provisions requiring an adjustment of the exercise price and number of shares of common stock issuable upon exercise of the Warrant in the event of stock dividends, stock splits, reorganizations, reclassification, consolidations and the like. The Warrants were issued in registered form. Continental Stock Transfer acts as our Warrant agent for registration and permissible transfers of the Warrants. Holders of Warrants do not have the rights or privileges of holders of common stock.

Interests of Directors and Executive Officers; Transactions and Arrangements Concerning the Warrants and Our Common Stock

To our knowledge, none of our directors, executive officers or controlling persons, or any of their affiliates, beneficially own any Warrants or will be tendering any Warrants pursuant to the Exchange Offer.

Fees and Expenses

We will not pay any fees or commissions to any broker, dealer or other person for soliciting tenders of Warrants pursuant to the Exchange Offer. We will, upon request, reimburse brokers and dealers for reasonable and customary handling and mailing expenses accrued by them in forwarding materials relating to the Exchange Offer to their customers. We have incurred certain expenses in preparation of the Exchange Offer.

Miscellaneous

We have not authorized any person to make any recommendation on our behalf as to whether you should tender or refrain from tendering your Warrants pursuant to the Exchange Offer. You should rely only on the information contained in this document or to which we have referred you. We have not authorized anyone to give you any information or to make any representations in connection with the Exchange Offer other than the information and representations contained herein or any other related document. If anyone makes any recommendation or representation to you or gives you any information, you must not rely upon that recommendation, representation or information as having been authorized by us.

Other than as described above in "Warrant Exchange Agreements," we have not and, to the best of our knowledge, none of our directors or executive officers has engaged in transactions involving the Warrants during the past 60 days. In addition, except as otherwise described below, we are not and, to our knowledge, none of our executive officers or directors is, a party to any agreement, arrangement or understanding with respect to any of our Warrants or common stock (including but not limited to, any agreement, arrangement, understanding or relationship concerning the transfer or the voting of any of our Warrants or common stock, joint ventures, loan or option arrangements, puts or calls, guarantees of loans, guarantees against loss or the giving or withholding of proxies, consents or authorizations).

CERTAIN TAX CONSEQUENCES OF THE EXCHANGE OFFER

Certain U.S. Federal Income Tax Consequences to U.S. Holders

The following summary describes certain U.S. federal income tax considerations that may be relevant to U.S. Holders (as defined below) that participate in the Exchange Offer to exchange Warrants for our common stock. This discussion does not describe U.S. federal income tax considerations that may be relevant to non-U.S. persons and other Warrantholders that are not U.S. Holders; such holders should consult their own tax advisors to determine the U.S. federal, state, local and other tax consequences that may be relevant to them. This summary applies only to holders who hold the Warrants and will hold the common stock as capital assets (generally, property held for investment). This description does not purport to address all potential tax considerations that may be relevant to a holder based on his, her or its particular situation and does not address the tax considerations applicable to holders that may be subject to special tax rules, such as:

- financial institutions;
- insurance companies;
- real estate investment trusts;
- regulated investment companies;
- grantor trusts;
- partnerships or other pass-through entities or holders of interests therein;
- tax-exempt organizations;
- dealers or traders in securities or currencies;
- holders that hold common stock or Warrants as part of a position in a straddle or as part of a hedging, conversion or integrated transaction for U.S. federal income tax purposes or U.S. Holders (as defined below) that have a functional currency other than the U.S. dollar; or
- certain U.S. expatriates or long-term U.S. residents.

In addition, this summary does not address the U.S. federal estate and gift tax, alternative minimum tax, state and local tax or other tax consequences that may be relevant to a holder that participates in the Exchange Offer. U.S. Holders are strongly advised to consult their tax advisors with respect to the application of the U.S. tax laws to their particular situation.

This summary is based on the Internal Revenue Code of 1986, as amended, or the Code, existing and proposed Treasury Regulations, administrative pronouncements and judicial decisions, each as in effect on the date hereof. All of the foregoing are subject to change, possibly with retroactive effect, or to differing interpretations by the Internal Revenue Service or a court, which could alter the tax consequences described herein. For purposes of this description, a U.S. Holder is a beneficial owner of Warrants or common stock that is for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation (including an entity taxed as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States or any State thereof, or the District of Columbia;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust if (x) a court within the United States is able to exercise primary supervision over the administration of such trust and one or more United States persons have the authority to

control all substantial decisions of such trust or (y) it has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a United States person.

This summary is included herein as general information only. No statutory or judicial authority directly addresses all aspects of transactions similar to the Exchange Offer. We have not sought and do not intend to seek any rulings from the IRS or opinions of counsel regarding the tax consequences described herein, and accordingly, there is no assurance that the IRS will not successfully challenge any of the tax consequences described herein. Accordingly, each Warrantholder is urged to consult his, her or its own tax advisor with respect to the U.S. federal, state, local and non-U.S. income and other tax consequences of participating in the Exchange Offer.

Participation in the Exchange Offer

If you participate in the Exchange Offer in accordance with the procedures set forth in the Exchange Offer, the Company intends to treat your participation for U.S. federal income tax purposes in the applicable manner described below.

If and to the extent you elect to participate in the Exchange Offer by tendering two (2) Warrants for one (1) share of our common stock, the Company will treat the transaction as a "recapitalization" exchange of Warrants for shares of common stock. The consequences of such characterization in respect of the Warrants exchanged into common stock should be that (i) the exchange of existing Warrants for new common stock would not cause recognition of gain or loss, (ii) your tax basis in the new common stock received in the exchange would be equal to the tax basis in your exchanged Warrants, and (iii) your holding period for the new common stock received in the exchange would include your holding period for the exchanged Warrants.

If, as a result of your exercise, in whole or in part, you receive a cash payment in lieu of the receipt of a fractional share of common stock, you will, absent the applicability of special circumstances, recognize capital gain or loss with respect to the fractional share in an amount equal to the difference, if any, between the amount of cash received in lieu of the fractional share and the portion of your tax basis in the fractional share of a common stock to which you otherwise would have been entitled. Any such capital gain or loss will be long-term if the holding period for such exchanged Warrants is more than one year as of the date of the exchange. Moreover, the information reporting and backup withholding rules discussed below may apply to any cash payments you receive in lieu of a fractional share of common stock.

Non-Participants in the Exchange Offer

If you do not participate in the Exchange Offer, the Company intends to treat the Exchange Offer as not resulting in any U.S. federal income tax consequences to you.

Tax Uncertainty; No Opinion of Counsel

Because of the lack of authority dealing with transactions similar to the Exchange Offer generally, the U.S. federal income tax consequences of the Exchange Offer are unclear, and alternative characterizations are possible that could require you to recognize taxable income. The IRS has not made a determination, nor has the Company received any opinion of counsel, on the U.S. federal income tax consequences of the Exchange Offer or of a holder's participation in the Exchange Offer. You are urged to consult your tax advisor regarding the potential tax consequences of the Exchange Offer to you in your particular circumstances, including the consequences of possible alternative characterizations.

Assuming the recapitalization treatment described above, if you are a participating holder, you will be required to file with your U.S. federal income tax return for the year in which the recapitalization

occurs a statement setting forth certain information relating to your existing Warrants (including basis information) and any shares of common stock that you receive in exchange for your existing Warrants, and to maintain permanent records containing such information.

Information Reporting and Backup Withholding

Information reporting and backup withholding may apply to the transactions effected pursuant to the Exchange Offer unless you provide the appropriate intermediary with a taxpayer identification number, certified under penalties of perjury, as well as certain other information or you otherwise establish an exemption from backup withholding. Any amount withheld under the backup withholding rules is allowable as a credit against your U.S. federal income tax liability, if any, and a refund may be obtained if the amounts withheld exceed your actual U.S. federal income tax liability and you timely provide the required information or appropriate claim for refund to the IRS.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The financial statements of Aastrom Biosciences, Inc. as of and for the years ended December 31, 2010 and 2011, incorporated by reference in this Exchange Offer and the effectiveness of internal control over financial reporting as of December 31, 2011 have been audited by an independent registered public accounting firm, as stated in their report incorporated by reference herein.

AVAILABLE INFORMATION/INCORPORATION BY REFERENCE

We have filed with the SEC a Tender Offer Statement on Schedule TO. This Exchange Offer Statement and the documents incorporated by reference herein do not contain all of the information contained in the Schedule TO and the exhibits to the Schedule TO. We recommend that you review the Schedule TO, including its exhibits.

Additionally, we file annual, quarterly and current reports, proxy statements and other information with the SEC under the Exchange Act of 1934.

We incorporate information into this Exchange Offer Statement by reference, which means that we disclose important information to you by referring you to a document filed with the SEC. The information incorporated by reference is deemed to be part of this Exchange Offer Statement, except to the extent superseded by information contained herein. This Exchange Offer Statement incorporates by reference the documents set forth below that have been previously filed with the SEC. These documents contain important information about us and our financial condition:

- our annual report on Form 10-K for the year ended December 31, 2011, filed with the SEC on March 15, 2012;
- our quarterly report on Form 10-Q for the three-month period ended March 31, 2012, filed with the SEC on May 10, 2012;
- our current reports on Form 8-K filed with the SEC on June 27, 2012;
- the description of our common stock contained in our registration statement on Form S-1, which was filed with the SEC on November 1, 1996, including any amendment or report filed for the purpose of updating such description.

All documents we filed pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act after the date of this Exchange Offer Statement and before the expiration of the Exchange Offer shall be incorporated by reference in this Exchange Offer Statement from the date of filing of such documents.

You may read and copy any reports, statements or other information on file at the SEC's public reference room located at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The SEC filings are also available to the public from commercial document retrieval services. These filings are also available at the Internet website maintained by the SEC at <http://www.sec.gov>.

We will provide without charge to each person to whom a copy of this Exchange Offer Statement is delivered, upon the written or oral request of any such person, a copy of any or all of the documents to which we have referred, other than exhibits to such documents (unless such exhibits are specifically incorporated by reference into such documents). Written requests for such documents should be directed to Aastrom Biosciences, Inc., 24 Frank Lloyd Wright Drive, P.O. Box 376, Ann Arbor, Michigan 48106, attention: Investor Relations or by telephone request to (800) 556-0311. These filings may also be obtained through our website located at <http://www.aastrom.com>.

QuickLinks

[Exhibit \(a\)\(1\)](#)

[OFFER TO EXCHANGE COMMON STOCK FOR ANY AND ALL OUTSTANDING WARRANTS EXERCISABLE FOR COMMON STOCK EXPIRING DECEMBER 15, 2015 WITH AN EXERCISE PRICE OF \\$3.22 PER SHARE OF AASTROM BIOSCIENCES, INC.](#)

[SUMMARY TERM SHEET](#)

[TABLE OF CONTENTS](#)

[CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS](#)

[SUMMARY](#)

[The Company](#)

[Background of Exchange Offer](#)

[Exchange Offer](#)

[RISK FACTORS](#)

[USE OF PROCEEDS](#)

[CAPITALIZATION](#)

[DIVIDEND POLICY](#)

[PRO FORMA FINANCIAL INFORMATION \(UNAUDITED\)](#)

[PRICE RANGE OF COMMON STOCK](#)

[THE EXCHANGE OFFER](#)

[CERTAIN TAX CONSEQUENCES OF THE EXCHANGE OFFER](#)

[INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM](#)

[AVAILABLE INFORMATION/INCORPORATION BY REFERENCE](#)

LETTER OF TRANSMITTAL

To Accompany Certificates Formerly Representing
Warrants Exercisable for Shares of Common Stock of

AASTROM BIOSCIENCES, INC.
(Exchange Ratio of 1 Share: 2 Warrants)

DESCRIPTION OF SURRENDERED WARRANTS

Names(s) and Address(es) of Registered Owner(s)
(Please fill in, if blank, exactly as name(s) appear(s) on warrant(s))

Warrant(s) Surrendered
(Attach additional list if necessary)

Warrant
Number(s)

Number of Shares Issuable
upon Exercise of
Warrant(s)

Total number
of warrants:

Total number
of shares:

o If any warrant(s) that you own have been lost or destroyed, check this box and see Instruction 9. Please fill out the remainder of this Letter of Transmittal and indicate here the number of shares of stock issuable upon exercise of the lost or destroyed warrants. _____ (Number of Warrants)

Note: Letter of Transmittal expires at 5:00 pm EST on July 27, 2012.

SPECIAL PAYMENT/ISSUANCE INSTRUCTIONS
(See Instructions 1, 4, 5 and 6)

To be completed ONLY if the new shares for surrendered Warrants is to be issued in the name of someone other than the undersigned.

Issue check to:

Name: _____
(Please Print)

Address: _____

(Include Zip Code)

(Tax Identification or Social Security No.)

SPECIAL DELIVERY INSTRUCTIONS
(See Instructions 1, 4 and 6)

To be completed ONLY if the check and/or new shares for surrendered Warrants is to be sent to someone other than the undersigned or to the undersigned at an address other than that shown above.

Deliver check to:

Name: _____
(Please Print)

Address: _____

(Include Zip Code)

IMPORTANT—WARRANTHOLDERS SIGN HERE
(U.S. Holders Also Please Complete Substitute Form W-9 Below)
(Non-U.S. Holders Please Obtain and Complete Form W-8BEN or Other Form W-8)

(Must be signed by former registered holder(s) exactly as name(s) appear(s) on warrant(s) or on a security position listing or by person(s) authorized to become registered holder(s) as evidenced by warrants and documents transmitted herewith. If signature is by trustees, executors, administrators, guardians, attorneys-in-fact, officers of corporations or others acting in a fiduciary or representative capacity, please set forth full title and see Instruction 4.)

Name(s): _____

Area Code and Telephone Number: _____

Dated: _____, 2012

GUARANTEE OF SIGNATURE(S)
(See Instructions 1 and 4)
Complete ONLY if required by Instruction 1.

FOR USE BY FINANCIAL INSTITUTION ONLY.
PLACE MEDALLION GUARANTEE IN SPACE BELOW.

Firm: _____
By: _____
Title: _____
Address: _____

TO BE COMPLETED BY ALL SURRENDERING U.S. HOLDERS
(See Instruction 7)

PAYER: CONTINENTAL STOCK TRANSFER & TRUST COMPANY

SUBSTITUTE
FORM W-9
Department of the Treasury
Internal Revenue Service

Name: _____
Address: _____

Check appropriate box:

Individual/Sole Proprietor	<input type="radio"/>	Corporation	<input type="radio"/>	Exempt from	
Partnership	<input type="radio"/>	Other (specify)	<input type="radio"/>	Backup Withholding	<input type="radio"/>

**Request for Taxpayer
Identification Number (TIN)
And Certification**

Part I. Please provide your taxpayer identification number in the space at right. If awaiting TIN, write "Applied For" in space at right and complete the Certificate of Awaiting Taxpayer Identification Number below.

SSN: _____

OR

EIN: _____

Part II. For Payees exempt from backup withholding, see the enclosed "Guidelines for Certification of Taxpayer Identification Number on Substitute Form W-9" and complete as instructed therein.

Part III. Certification

Under penalties of perjury, I certify that:

- (1) The number shown on this form is my correct Taxpayer Identification Number (or, as indicated, I am waiting for a number to be issued to me);
- (2) I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the IRS that I am subject to backup withholding as a result of a failure to report all interests or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- (3) I am a U.S. person (including a U.S. resident alien).

Certification Instructions—You must cross out item (2) above if you have been notified by the IRS that you are subject to backup withholding because you have failed to report all interest or dividends on your tax return. However, if after being notified by the IRS that you were subject to backup withholding you received another notification from the IRS that you are no longer subject to backup withholding, do not cross out item (2).

Signature: _____ Date: _____, 2012

You must complete the following certificate if you wrote "applied for" in part I of this substitute form W-9

CERTIFICATE OF AWAITING TAXPAYER IDENTIFICATION NUMBER

I certify under penalties of perjury that a taxpayer identification number has not been issued to me, and either (a) I have mailed or delivered an application to receive a taxpayer identification number to the appropriate Internal Revenue Service Center or Social Security Administration Office or (b) I intend to mail or deliver an application in the near future. I understand that, notwithstanding the information I provided in Part III of the Substitute Form W-9 (and the fact that I have completed this Certificate of Awaiting Taxpayer Identification Number), all reportable payments made to me hereafter will be subject to backup withholding tax until I provide a properly certified taxpayer identification number within 60 days of the date of this Substitute Form W-9.

Signature: _____ Date: _____

INSTRUCTIONS FOR LETTER OF TRANSMITTAL

1. **Guarantee of Signature.** Signatures on all Letters of Transmittal must be guaranteed by a financial institution that is a member of a Securities Transfer Association approved medallion program such as STAMP, SEMP or MSP (an "Eligible Institution"), except in cases where securities are surrendered (i) by a registered holder of the securities who has **not** completed either the box entitled "Special Payment/Issuance Instructions" or the box entitled "Special Delivery Instructions" on the Letter of Transmittal or (ii) for the account of an Eligible Institution. **See Instruction 4.**

2. **Delivery of Letter of Transmittal and Warrants.** The Letter of Transmittal, properly completed and duly executed, together with the warrants(s) described should be delivered to Continental Stock Transfer & Trust Company in the envelope enclosed for your convenience.

THE METHOD OF DELIVERY OF WARRANT(S) AND ALL OTHER REQUIRED DOCUMENTS IS AT THE ELECTION AND RISK OF THE OWNER, BUT IF SENT BY MAIL, IT IS RECOMMENDED THAT THEY BE SENT BY REGISTERED MAIL WITH RETURN RECEIPT REQUEST. DELIVERY OF THE DOCUMENTS WILL BE EFFECTIVE, AND RISK OF LOSS AND TITLE WITH RESPECT THERETO SHALL PASS, ONLY WHEN THE MATERIALS ARE ACTUALLY RECEIVED BY THE PAYING AGENT.

3. **Inadequate Space.** If the space provided on the Letter of Transmittal is inadequate, the warrant numbers and the number of shares issuable upon exercise of such warrants should be listed on a separate schedule to be attached thereto.

4. **Signatures of Letter of Transmittal and Endorsements.** When the Letter of Transmittal is signed by the registered owner(s) of the warrant(s) listed and surrendered thereby, no endorsements of warrants or separate assignments are required.

If the warrant(s) surrendered is (are) owned of record by two or more joint owners, all such owners must sign the Letter of Transmittal.

If any surrendered warrant are registered in different names, it will be necessary to complete, sign and submit as many separate Letters of Transmittal as there are different registrations of certificates.

If the Letter of Transmittal is signed by a person other than the registered owner of the certificate(s) listed, such certificate(s) must be endorsed or accompanied by appropriate stock powers, in either case signed exactly as the name or names of the registered owner or owners appear on the certificate(s). Signatures on such certificates or stock powers must be guaranteed by an Eligible Institution.

If the Letter of Transmittal or any certificate or stock power is signed by trustees, executors, administrators, guardians, attorney-in-fact, officers of corporations or others, acting in a fiduciary or representative capacity, such persons should so indicate when signing and proper evidence, satisfactory to Continental Stock Transfer & Trust Company, the Company's transfer agent, of their authority to do so must be submitted.

5. **Special Issuance and Delivery Instructions.** Indicate the name and address to which payment for the securities is to be sent if different from the name and address of the person(s) signing the Letter of Transmittal.

6. **Guaranteed Delivery Procedures.** The Warrant may be tendered by Guaranteed Delivery, provided that the tender is made through an eligible institution, prior to the expiration Continental Stock Transfer & Trust Company receives a notice of guaranteed delivery guaranteeing that a book entry confirmation will be deposited within three trading days after the expiration date, and a book entry confirmation is received within three trading days of the expiration date.

7. **Substitute Form W-9.** Enter your social security or taxpayer identification number, complete, sign and date the Substitute W-9 certification. If you are a foreign person, you must provide a properly completed and executed Internal Revenue Service Form W-8BEN, which you can obtain from Continental Stock Transfer & Trust Company.

8. **Additional Copies.** Additional copies of the Letter of Transmittal may be obtained from the Reorganization Department of Continental Stock Transfer & Trust Company at the address listed below.

9. **Lost, Stolen or Destroyed Certificates.** If any stock certificates have been lost, stolen or destroyed, please so indicate on the front of the Letter of Transmittal and additional paperwork will be sent to you to replace the lost, stolen or destroyed certificates.

10. **Expiration Date.** No Letters of Transmittal will be accepted by Continental Stock Transfer & Trust Company after 5:00 pm EST, July 27, 2012.

All questions as to the validity, form and eligibility of any surrender of certificates will be determined by Continental Stock Transfer & Trust Company and the Company and such determination shall be final and binding. Continental Stock Transfer & Trust Company and the Company reserve the right to waive any irregularities or defects in the surrender of any certificates. A surrender will not be deemed to have been made until all irregularities have been cured or waived. Neither Continental Stock Transfer & Trust Company nor the Company is under any obligation to waive or to provide any notification of any irregularities or defects in the surrender of any certificates, nor shall Continental Stock Transfer & Trust Company or the Company be liable for any failure to give such notification.

For Information:

Continental Stock Transfer & Trust Company
17 Battery Place—8th Floor
New York, New York 10004
Attention: Reorganization Department
(212) 509-4000 Extension 536

QuickLinks

[Exhibit \(a\)\(2\)](#)

[GUARANTEE OF SIGNATURE\(S\) \(See Instructions 1 and 4\) Complete ONLY if required by Instruction 1.](#)
[INSTRUCTIONS FOR LETTER OF TRANSMITTAL](#)

Form of Notice of Withdrawal

AASTROM BIOSCIENCES, INC.

Offer to Exchange

Common Stock for any and all outstanding Warrants exercisable for Common Stock expiring December 15, 2015 with an exercise price of \$3.22 per share (CUSIP 00253U164) of Aastrom Biosciences, Inc.

THE EXCHANGE OFFER AND WITHDRAWAL RIGHTS WILL EXPIRE AT 5:00 P.M., EASTERN STANDARD TIME, ON JULY 27, 2012 UNLESS THE EXCHANGE OFFER IS EXTENDED.

The undersigned acknowledges receipt of the exchange offer statement dated June 28, 2012 (the "Exchange Offer Statement") of Aastrom Biosciences, Inc., a Michigan corporation (the "Company"), for the offer to exchange shares of the Company's common stock, no par value ("Common Stock") for any or all of the Company's outstanding warrants to purchase Common Stock exercisable at \$3.22 per share (the "Warrants") of the Company that are validly tendered and not properly withdrawn under the terms and subject to the conditions set forth in the Exchange Offer Statement. All withdrawals of Warrants previously tendered in the Exchange Offer (as defined in the Exchange Offer Statement) must comply with the procedures described in the Exchange Offer Statement under "The Exchange Offer—Withdrawal Rights".

The undersigned has identified in the table below the Warrants that it is withdrawing from the Exchange Offer:

Description of Warrants Withdrawn

Number of Warrants to be withdrawn:

Date(s) such Warrants were tendered:

TOTAL NUMBER OF WARRANTS WITHDRAWN:

* If any Warrants were tendered through The Depository Trust Company (DTC), please provide the DTC Participant Number. This form should only be used for withdrawals of Warrants delivered through DTC if the undersigned needs to withdraw Warrants on the final day of the exchange offer and withdrawal through DTC is no longer available. Otherwise, the DTC form of withdrawal should be used for such Warrants.

If you tendered Warrants through DTC's Automated Tender Offer Program ("ATOP"), and you wish to withdraw your tender, you may only do so through ATOP.

You may transmit this notice of withdrawal to the Exchange Agent, Continental Stock Transfer & Trust Company, at the address listed below:

Continental Stock Transfer & Trust Company
17 Battery Place, 8th Floor
New York, NY 10004
Attention: Reorganization Department

This notice of withdrawal must be signed below by the registered holder(s) of the Warrants tendered as their names appear on the certificate(s) or on a security position listing or by person(s) authorized to become registered holder(s) by endorsements and documents transmitted with the letter of transmittal used to tender such Warrants. If signed by a trustee, executor, administrator, guardian, attorney-in-fact, officer or other person acting in a fiduciary or representative capacity, please set forth the full title of such persons.

Name(s): _____

Account Number(s): _____

Signature(s): _____

Capacity (full title): _____

Address (including Zip Code): _____

Area Code and Telephone Number: _____

Tax Identification or Social Security No.: _____

Dated: _____, 2012

DTC Participant Number (applicable for Warrants tendered through DTC only) _____

The Company will determine all questions as to the validity, form and eligibility (including time of receipt) of any notice of withdrawal in its sole discretion, and its determination shall be final and binding. None of the Company, the Exchange Agent or any other person is under any duty to give notice of any defects or irregularities in any notice of withdrawal and none of them will incur any liability for failure to give any such notice.

QuickLinks

[Exhibit \(a\)\(3\)](#)

Aastrom Biosciences, Inc.

NOTICE

Dated June 28, 2012

To Exchange
any and all outstanding
Warrants exercisable for Common Stock expiring December 15, 2015 with an exercise price of
\$3.22 per share (CUSIP 00253U164) of Aastrom Biosciences, Inc.

THE EXCHANGE OFFER WILL EXPIRE AT 5:00 P.M., EASTERN STANDARD TIME, ON JULY 27, 2012 UNLESS THE EXCHANGE OFFER IS EXTENDED (THE "EXPIRATION DATE"). TENDERS MAY BE WITHDRAWN PRIOR TO 5:00 P.M., EASTERN STANDARD TIME, ON THE EXPIRATION DATE.

To: **Brokers, Dealers, Commercial Banks,
Trust Companies and other Nominees**

Enclosed for your consideration is material relating to the offer by Aastrom Biosciences, Inc. (the "Company") to exchange shares of our common stock no par value ("Common Stock") for any or all of our outstanding warrants to purchase common stock exercisable at \$3.22 per share ("Warrants"). This is a one-time offer and only valid during the period the Exchange Offer remains open. Each Warrant is currently exercisable into one (1) share of Common Stock for an exercise price of \$3.22. Holders of Warrants may exchange their Warrants for one (1) share of our common stock for every two (2) Warrants tendered.

You may withdraw tenders of Warrants at any time prior to the expiration of the Exchange Offer. Withdrawn Warrants may, however, be re-tendered by again following one of the appropriate procedures described in the Exchange Offer at any time prior to the expiration of the Exchange Offer.

For your information and for forwarding to your clients for whom you hold the Warrants registered in your name or in the name of your nominee, we are enclosing the following documents:

1. Exchange Offer dated June 28, 2012;
2. A printed form of letter, including a Letter of Instructions, which may be sent to your clients for whose account you hold Warrants registered in your name or in the name of your nominee, with space provided for obtaining such clients' instructions with regard to the Exchange Offer;
3. A Form of Notice of Withdrawal; and
4. A return envelope addressed to the Exchange Agent.

DTC participants will be able to execute tenders through the DTC Automated Tender Offer Program.

We will, upon request, reimburse brokers and dealers for reasonable and customary handling and mailing expenses accrued by them in forwarding materials relating to the Exchange Offer to their customers.

WE URGE YOU TO CONTACT YOUR CLIENTS AS PROMPTLY AS POSSIBLE IN ORDER TO OBTAIN THEIR INSTRUCTIONS.

Any inquiries you may have with respect to the Exchange Offer should be addressed, or requests for additional copies of the enclosed materials, should be directed to Continental Stock Transfer & Trust Company, the Exchange Agent for the Exchange Offer at:

Continental Stock Transfer & Trust Company
17 Battery Place, 8th Floor
New York, NY 10004
Attention: Reorganization Department

Very truly yours,

AASTROM BIOSCIENCES, INC.

NOTHING CONTAINED HEREIN OR IN THE ENCLOSED DOCUMENTS SHALL CONSTITUTE YOU OR ANY PERSON AS AGENT OF THE COMPANY OR THE DEALER MANAGER OR THE INFORMATION AGENT OR THE EXCHANGE AGENT, OR AUTHORIZE YOU OR ANY OTHER PERSON TO USE ANY DOCUMENT OR MAKE ANY STATEMENTS ON BEHALF OF ANY OF THEM IN CONNECTION WITH THE EXCHANGE OFFER OTHER THAN THE DOCUMENTS ENCLOSED HERewith AND THE STATEMENTS CONTAINED THEREIN.

QuickLinks

[Exhibit \(a\)\(4\)](#)