Table of Contents

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE QUARTERLY PERIOD ENDED June 30, 2013, OR

£ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM TO

Commission file number 0-22025

AASTROM BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Michigan	**94-3096597**
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)
24 Frank Lloyd Wright Dr. – Lobby K Ann Arbor, Michigan	**48105**
(Address of principal executive offices)	(Zip code)

(800) 556-0311

(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes - x No - o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes - x No - o

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

Large accelerated filer - o	Accelerated filer - x
Non-accelerated filer - o (Do not check if a smaller reporting company)	Smaller reporting company - o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes - £ No - T

Indicate the number of shares outstanding of each of the issuer's classes of common stock as of the latest practicable date.

COMMON STOCK, NO PAR VALUE	**45,664,079**
(Class)	Outstanding at July 31, 2013

Table of Contents

AASTROM BIOSCIENCES, INC.
QUARTERLY REPORT ON FORM 10-Q
TABLE OF CONTENTS

Page

PART I — FINANCIAL INFORMATION 3

Item 1. Financial Statements (Unaudited): 3
Condensed Consolidated Balance Sheets as of December 31, 2012 and June 30, 2013 3
Condensed Consolidated Statements of Operations for the quarters and six months ended June 30, 2012 and 2013 and for the period from March 24, 1989 (Inception) to June 30, 2013 4
Condensed Consolidated Statements of Cash Flows for the six months ended June 30, 2012 and 2013 and for the period from March 24, 1989 (Inception) to June 30, 2013 5
Notes to Condensed Consolidated Financial Statements 6
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations 10
Item 3. Quantitative and Qualitative Disclosures About Market Risk 18
Item 4. Controls and Procedures 19

PART II — OTHER INFORMATION 20

Item 1. Legal Proceedings 20
Item 1A. Risk Factors 20
Item 6. Exhibits 20

Signature 21
Exhibit Index 22
Glossary

Table of Contents

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

AASTROM BIOSCIENCES, INC.
(a development stage company)

CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited, amounts in thousands)

	December 31, 2012	June 30, 2013
ASSETS		
Current assets:		
Cash and cash equivalents	$ 13,638	$ 4,494
Other current assets	352	236
Total current assets	13,990	4,730
Property and equipment, net	1,188	953
Total assets	$ 15,178	$ 5,683
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND SHAREHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable and accrued expenses	$ 3,247	$ 3,334
Accrued employee benefits	383	458
Current portion of long-term debt	34	19
Warrant liabilities	1,995	31
Total current liabilities	5,659	3,842
Long-term debt	6	—
Total liabilities	5,665	3,842
Series B-1 non-voting convertible preferred stock, no par value; shares authorized and reserved — 39, shares issued and outstanding — zero	3,923	5,186
Series B-2 voting convertible preferred stock, no par value; shares authorized and reserved — 39, shares issued and outstanding —12	37,690	37,690
Total convertible preferred stock	41,613	42,876
Shareholders' deficit:		
Common stock, no par value; shares authorized — 150,000; shares issued and outstanding — 43,784 and 45,664, respectively	243,215	245,976
Deficit accumulated during the development stage	(275,315)	(287,011)
Total shareholders' deficit	(32,100)	(41,035)
Total liabilities, convertible preferred stock and shareholders' deficit	$ 15,178	$ 5,683

The accompanying Notes to Condensed Consolidated Financial Statements are an integral part of these statements.

Table of Contents

AASTROM BIOSCIENCES, INC.
(a development stage company)

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited, amounts in thousands except per share amounts)

	Quarter Ended June 30,		Six Months Ended June 30,		March 24, 1989 (Inception) to June 30,
	2012	2013	2012	2013	2013
Revenues:					
Product sales and rentals	$ —	$ 3	$ 2	$ 11	$ 1,909
Research and development agreements	—	—	—	—	2,105
Grants	—	—	—	—	9,901
Total revenues	—	3	2	11	13,915
Costs and expenses:					
Cost of product sales and rentals	—	1	2	3	3,050
Research and development	7,069	3,676	13,865	9,214	225,944
Selling, general and administrative	2,231	1,560	3,993	3,193	95,791
Total costs and expenses	9,300	5,237	17,860	12,410	324,785
Loss from operations	(9,300)	(5,234)	(17,858)	(12,399)	(310,870)
Other income (expense):					
Decrease in fair value of warrants	1,948	345	1,048	1,964	18,501
Other income	—	—	—	—	1,249
Interest income	20	3	26	8	10,830
Interest expense	(3)	(3)	(6)	(6)	(497)
Total other income	1,965	345	1,068	1,966	30,083
Net loss	(7,335)	(4,889)	(16,790)	(10,433)	(280,787)
Accretion of convertible preferred stock	1,231	—	1,520	1,263	6,224
Net loss attributable to common shareholders	$ (8,566)	$ (4,889)	$ (18,310)	$ (11,696)	$ (287,011)
Net loss per share attributable to common shareholders (Basic and Diluted)	$ (0.22)	$ (0.11)	$ (0.47)	$ (0.26)	
Weighted average number of common shares outstanding (Basic and Diluted)	38,882	45,664	38,812	45,266	

The accompanying Notes to Condensed Consolidated Financial Statements are an integral part of these statements.

Table of Contents

AASTROM BIOSCIENCES, INC.
(a development stage company)

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited, amounts in thousands)

	Six Months Ended June 30,		March 24, 1989 (Inception) to June 30,
	2012	2013	2013
Operating activities:			
Net loss	$ (16,790)	$ (10,433)	$ (280,787)
Adjustments to reconcile net loss to net cash used for operating activities:			
Depreciation and amortization	341	275	8,422
Loss on property held for resale	—	—	110
Amortization of discounts and premiums on investments	—	—	(1,704)
Stock compensation expense	2,039	383	17,878
Decrease due to change in fair value of warrants	(1,048)	(1,964)	(18,501)
Inventory write downs and reserves	—	—	2,240
Stock issued pursuant to license agreement	—	—	3,300
Provision for losses on accounts receivable	—	—	204
Changes in operating assets and liabilities:			
Inventories	—	—	(2,335)
Other current assets	181	116	(465)
Accounts payable and accrued expenses	821	87	3,102
Accrued employee benefits	(97)	75	458
Net cash used for operating activities	(14,553)	(11,461)	(268,078)
Investing activities:			
Organizational costs	—	—	(73)
Purchase of short-term investments	—	—	(217,041)
Maturities of short-term investments	—	—	218,745

Property and equipment purchases	(86)	(40)	(7,530)
Proceeds from sale of property held for resale	—	—	400
Net cash used for investing activities	(86)	(40)	(5,499)
Financing activities:			
Net proceeds from issuance of preferred stock	37,620	—	89,267
Net proceeds from issuance of common stock and warrants	176	2,378	187,432
Payments received for stock purchase rights and other, net	—	—	3,500
Proceeds from long-term debt	—	—	751
Principal payments under long-term debt obligations	(21)	(21)	(2,861)
Other, net	—	—	(18)
Net cash provided by financing activities	37,775	2,357	278,071
Net increase (decrease) in cash and cash equivalents	23,136	(9,144)	4,494
Cash and cash equivalents at beginning of period	5,530	13,638	—
Cash and cash equivalents at end of period	$ 28,666	$ 4,494	$ 4,494
Supplemental cash flow information (non-cash):			
Accretion of convertible preferred stock	$ 1,520	$ 1,263	$ 6,224
Warrants exchanged for common stock	$ 8,356	$ —	$ 10,382

The accompanying Notes to Condensed Consolidated Financial Statements are an integral part of these statements.

Table of Contents

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
FOR THE QUARTER ENDED MARCH 31, 2013 (UNAUDITED)

1. Organization and Summary of Significant Accounting Policies

Aastrom Biosciences, Inc. was incorporated in March 1989 (Inception), began employee-based operations in 1991, and is in the development stage. The Company operates its business in one reportable segment — research and product development involving the development of patient-specific, expanded multicellular therapies for use in the treatment of severe, chronic ischemic cardiovascular diseases.

Successful future operations are subject to several technical hurdles and risk factors, including satisfactory product development, timely initiation and completion of clinical trials, regulatory approval and market acceptance of the Company's products and the Company's continued ability to obtain future funding.

The Company is subject to certain risks related to the operation of its business and development of its products and product candidates. As of June 30, 2013, the Company had $4,494,000 of cash and cash equivalents. This is not sufficient to sustain operations for one year. In light of our financial position, we are evaluating strategic financial opportunities in the short-term in order to maintain adequate liquidity through December 31, 2013 and beyond. The Company could sell shares through an At the Market Sales Agreement (ATM) in order to raise additional capital, though there are certain factors, such as volume of trading in the stock, the stock price and the ability to terminate the agreement with notice, which could limit the amount the Company could raise in a short period of time. On a longer-term basis, the Company will need to raise additional funds in order to complete product development programs and complete clinical trials needed to market and commercialize its products. The Company cannot be certain that such funding will be available on favorable terms, if at all. Some of the factors that will impact the Company's ability to raise additional capital and our overall success include: the rate and degree of progress for product development, the rate of regulatory approval to proceed with clinical trial programs, the level of success achieved in clinical trials, the requirements for marketing authorization from regulatory bodies in the United States and other countries, the liquidity and market volatility of the Company's equity securities, regulatory and manufacturing requirements and uncertainties, technological developments by competitors, and other factors. If the Company cannot raise such funds, the Company will not be able to develop or enhance products, take advantage of future opportunities, or respond to competitive pressures or unanticipated requirements, which would have a material adverse impact on the business, financial condition and results of operations. As a result of the need to raise additional capital and a net capital deficiency, there is uncertainty regarding the Company's ability to maintain liquidity sufficient to operate the business effectively over at least the next twelve months, which raises substantial doubt as to the ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

2. Basis of Presentation

The condensed consolidated financial statements included herein have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission (SEC). Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles in the United States of America (U.S. GAAP) have been omitted pursuant to such rules and regulations. The financial statements reflect, in the opinion of management, all adjustments (consisting only of normal, recurring adjustments) necessary to state fairly the financial position and results of operations as of and for the periods indicated. The results of operations for the six months ended June 30, 2013, are not necessarily indicative of the results to be expected for the full year or for any other period. The December 31, 2012 condensed consolidated balance sheet data was derived from audited consolidated financial statements, but does not include all disclosures required by U.S. GAAP.

These condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and the notes thereto included in our Annual Report on Form 10-K for the period ended December 31, 2012, as filed with the SEC.

The consolidated financial statements include the accounts of Aastrom and its wholly-owned subsidiaries, Aastrom Biosciences GmbH, located in Berlin, Germany, Aastrom Biosciences, SL, located in Barcelona, Spain and

Table of Contents

Marrow Donation, LLC, located in San Diego, California (collectively, the Company). All inter-company transactions and accounts have been eliminated in consolidation. The subsidiaries are not a significant component of the consolidated financial statements as each has limited operations historically and Aastrom Biosciences GmbH and Aastrom Biosciences, SL have ceased operations.

3. Stock-Based Compensation

The Company issues nonqualified and incentive stock options as well as other equity awards pursuant to its 2009 Omnibus Incentive Plan, as amended (Option Plan). Such awards pursuant to the Option Plan may be granted by the Company's Board of Directors to certain of the Company's employees, directors and consultants.

During the six months ended June 30, 2013, the Company granted 1,365,000 service-based options to purchase common stock. These options were granted with exercise prices equal to or greater than the fair market value of the Company's stock at the grant date, generally vest over four years (other than 240,000 non-employee options which vest over one year) and expire after ten years. The weighted average grant-date fair value of service-based options granted under the Company's Option Plan during the six months ended June 30, 2012 and 2013 was $1.34 and $0.75, respectively.

The net compensation expense recorded for the service-based stock options related to employees and directors was $426,000 and $383,000 for the quarter and six months ended June 30, 2013, respectively, compared to $1,224,000 and $2,039,000 for the corresponding periods ended June 30, 2012. The June 30, 2013 compensation cost includes forfeiture adjustments, primarily due to restructuring activities announced on March 27, 2013, which reduced expense by $1,125,000.

The fair value of each service-based stock option grant for the reported periods is estimated on the date of the grant using the Black-Scholes option-pricing model using the weighted average assumptions noted in the following table.

Service-Based Stock Options	Six Months Ended June 30, 2012	2013
Expected dividend rate	0%	0%
Expected stock price volatility	73.8 – 74.9%	74.0 – 80.7%
Risk-free interest rate	1.1 - 1.5%	0.1 - 1.4%
Expected life (years)	6.0 - 6.3	5.0 - 6.3

The following table summarizes the activity for service-based stock options for the indicated periods:

Service-Based Stock Options	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2012	9,987,468	$ 2.38	7.5	$ —
Granted	1,365,000	$ 1.14		
Exercised	—	$ —		$ —
Expired	2,325,132	$ 2.75		
Forfeited	1,773,470	$ 2.26		
Outstanding at June 30, 2013	7,253,866	$ 2.05	7.8	$ —
Exercisable at June 30, 2013	3,063,263	$ 2.38	6.3	$ —

As of June 30, 2013 there was $3,046,000 of total unrecognized compensation cost related to non-vested service-based stock options granted under the Option Plan. That cost is expected to be recognized over a weighted-average period of 2.8 years.

The total fair value of options vested during the six months ended June 30, 2012 and 2013 was $1,362,000 and $1,434,000, respectively.

Table of Contents

4. Stock Purchase Warrants

The Company has historically issued warrants to purchase shares of the Company's common stock in connection with certain of its common stock offerings. The following warrants were outstanding at June 30, 2013, and include provisions that could require cash settlement of the warrants or have anti-dilution price protection provisions requiring each to be recorded as liabilities of the Company at the estimated fair value at the date of issuance, with changes in estimated fair value recorded as non-cash income or expense in the Company's statement of operations in each subsequent period:

	January 21, 2010 Class A Warrants	December 15, 2010 Warrants
Exercise price	$ 2.44	$ 1.25
Expiration date	July 21, 2015	December 15, 2015
Warrants outstanding	6,034,637	308,100
Total shares issuable on exercise	4,525,978	308,100

The 740,131 warrants issued on October 17, 2007 in connection with the Company's registered direct offering, at an exercise price of $12.72 per share expired unexercised as of April 17, 2013. The exercise price per share for the January 15, 2010 and December 15, 2010 warrants were adjusted for the anti-dilution provisions triggered by usage of the Company's ATM during the six months ended June 30, 2013, which raised gross proceeds of $2,451,000.

The fair value of the Class A warrants and the December 2010 warrants are measured using the Monte Carlo valuation model. The methodology is based, in part, upon inputs for which there is little or no observable market data, requiring the Company to develop its own assumptions. The assumptions used in calculating the estimated fair value of the warrants represent the Company's best estimates, however; these estimates involve inherent uncertainties and the application of management judgment. As a result, if factors change and different assumptions are used, the warrant liabilities and the change in estimated fair value of the warrants could be materially different.

Inherent in the Monte Carlo valuation model are assumptions related to expected stock-price volatility, expected life, risk-free interest rate and dividend yield. The Company estimates the volatility of its common stock based on historical volatility that matches the expected remaining life of the warrants. The risk-free interest rate is based on the U.S. Treasury zero-coupon yield curve on the grant date for a maturity similar to the expected remaining life of the warrants. The expected life of the warrants is assumed to be equivalent to their remaining contractual term. The dividend rate is based on the historical rate, which the Company anticipates to remain at zero.

The Monte Carlo model is used for the Class A warrants and the December 2010 warrants to value the potential future exercise price adjustments triggered by the anti-dilution provisions as well as the value of the put feature of the December 2010 warrants. These both require Level 3 inputs which are based on the Company's estimates of the probability and timing of potential future financings and fundamental transactions. The other assumptions used by the Company are summarized in the following tables:

January 2010 Class A Warrants	December 31, 2012	June 30, 2013
Closing stock price	$ 1.26	$ 0.40
Expected dividend rate	0%	0%
Expected stock price volatility	74.0%	59.9%
Risk-free interest rate	0.4%	0.4%
Expected life (years)	2.50	2.00

December 2010 Warrants	December 31, 2012	June 30, 2013
Closing stock price	$ 1.26	$ 0.40
Expected dividend rate	0%	0%
Expected stock price volatility	70.1%	58.4%
Risk-free interest rate	0.4%	0.5%
Expected life (years)	2.96	2.46

Table of Contents

The following table summarizes the change in the estimated fair value of the Company's warrant liabilities *(in thousands)*:

Warrant Liabilities	
Balance at December 31, 2012	$ 1,995
Decrease in fair value	(1,964)
Balance at June 30, 2013	$ 31

5. Series B Convertible Preferred Stock

On March 9, 2012, the Company completed the sale of 12,308 shares of Series B-1 Non-Voting Convertible Preferred Stock (Series B-1 preferred stock) at an offering price of $3,250 per share. In addition to the Series B-1 preferred stock, which was issued at the closing, the Company also authorized Series B-2 Voting Convertible preferred Stock (Series B-2 preferred stock). The Series B-1 preferred stock and Series B-2 preferred stock collectively are referred to as the Series B preferred stock. The Series B preferred stock is convertible, at the option of the holder thereof at any time after the five year anniversary of the closing of the offering, into shares of common stock at a conversion price of $3.25 per share of common stock. At any time after the five year anniversary of issuance, the Company may elect to convert any or all outstanding shares of Series B preferred stock into shares of common stock, subject to certain limitations. Dividends on the Series B preferred stock will be cumulative and compound daily, at a rate of 11.5% per annum, payable upon conversion, liquidation, redemption or other similar events, and payable in cash or Series B-1 preferred stock until the five year anniversary of issuance. Unless prohibited by Michigan law governing distributions to shareholders, the Series B-1 preferred stock shall be redeemable at the option of holder of the Series B-1 preferred stock commencing at any time after the five year anniversary of issuance, liquidation, winding up, dissolution or other similar events, subject to certain terms and limitations.

The Series B preferred stock does not, in its entirety, require liability classification and has been evaluated for embedded features to determine if those features require bifurcation and separate classification as derivative liabilities. The Series B preferred stock host contract was evaluated for equity or mezzanine classification based upon the nature of the redemption and conversion features. Generally, any feature that could require cash redemption for matters not within the Company's control, irrespective of probability of the event occurring, requires classification outside of shareholders' equity. The Series B preferred stock has been recorded as mezzanine in the Condensed Consolidated Balance Sheets and will be accreted to its redemption value through charges to Deficit accumulated during the development stage using the effective interest method.

The carrying value of the Series B-1 preferred stock presented as mezzanine in the condensed consolidated financial statements is $5,186,000, as of June 30, 2013. As of June 30, 2013, there are no outstanding shares of Series B-1 preferred stock. The decrease in our stock price has made it unlikely that a material governmental filing by Eastern will be required on the scheduled conversion date. Therefore, the probability of redemption has decreased to a level where that we are no longer required to accrete the Series B-1 preferred stock up to the redemption value of $31,102,000. The potential redemption value is determined by the greater of the conversion price of the Series B-1 Preferred Stock or the common stock price, multiplied by the total accumulated dividends at the five year anniversary of issuance.

6. Net Loss Per Common Share

Basic earnings (loss) per share is calculated using the two-class method, which is an earnings allocation formula that determines earnings (loss) per share for the holders of the Company's common shares and holders of the Series B preferred stock. The Series B preferred stock shares contain participation rights in undistributed earnings, but do not share in the losses of the Company. Therefore, in the event of a loss from continuing operations, the Series B preferred stock is not considered in the calculation of basic loss per share.

Net loss per common share is computed using the weighted-average number of common shares outstanding during the period. Common equivalent shares are not included in the diluted per share calculation where the effect of their inclusion would be anti-dilutive. The aggregate number of common equivalent shares (related to options,

Table of Contents

warrants and preferred stock) that have been excluded from the computations of diluted net loss per common share at June 30, 2012 and 2013 were 31,355,000 and 26,396,000, respectively.

7. Restructuring

On March 27, 2013, the Company announced a strategic change in its research and development programs to focus on the clinical development of ixmyelocel-T for the treatment advanced heart failure due to ischemic dilated cardiomyopathy (DCM). The Company, which recently initiated the Phase 2b ixCELL-DCM clinical trial, previously received a U.S. orphan drug designation for the use of ixmyelocel-T in the treatment of DCM. As a result of the strategic change, the Company stopped enrollment of the Phase 3 REVIVE clinical trial in patients with critical limb ischemia (CLI). In addition, the Company executed a corporate restructuring that reduced staff and operating expenses. Employees directly affected by the restructuring plan were provided with severance payments and outplacement assistance.

As a result of the termination of the Phase 3 REVIVE clinical trial, the Company recorded a one-time restructuring charge of $408,000 in the first quarter of 2013. The restructuring accrual decreased to $204,000 as of June 30, 2013 as a result of cash payments made for severance and other personnel-related expense during the quarter.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview

We were incorporated in 1989 and are a biotechnology 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 generic name for our multicellular therapy) is a disease modifying therapy with multi-functional properties including: tissue remodeling, immunomodulation and the promotion of angiogenesis. Our proprietary cell-manufacturing technology enables the manufacture of multicellular therapies, expanded from an adult patient's own bone marrow, to be delivered directly to damaged tissues. Preclinical and clinical data suggest that ixmyelocel-T may be safe and effective in treating patients with severe, chronic ischemic cardiovascular diseases such as dilated cardiomyopathy (DCM), the third leading cause of heart failure, and critical limb ischemia (CLI), the most severe form of peripheral arterial disease (PAD). Over 400 patients have been safely treated since our inception, with over 200 of those using ixmyelocel-T. In November 2011, we released positive Phase 2b data from our RESTORE-CLI clinical trial and launched our pivotal Phase 3 REVIVE trial in CLI in February 2012. During the fourth quarter of 2012, we launched a randomized, placebo-controlled, double-blinded Phase 2b clinical trial (ixCELL-DCM) for patients with advance heart failure due to ischemic DCM.

On March 27, 2013, we announced a strategic change in our research and development programs to focus on the clinical development of ixmyelocel-T for the treatment of advanced heart failure due to ischemic DCM. We believe heart failure represents a significant unmet medical need and a growing public health problem. DCM is the third leading cause of heart failure and the leading cause of heart transplantation in the United States. A majority of advanced heart failure patients that are refractory to medical therapy have DCM, which leads us to believe that the refractory ischemic DCM market represents a substantial market opportunity for ixmyelocel-T. The DCM program has received a U.S. Orphan Drug designation, and we believe that this orphan designation will allow us to pursue this heart failure indication with a more cost-effective path to approval for ixmyelocel-T.

As a result of the strategic change, we stopped enrollment of patients in the Phase 3 REVIVE clinical trial in patients with CLI. In addition, we executed a corporate restructuring that reduced staff and ongoing operating cash needs by approximately 50 percent. As a result, we recorded a one-time restructuring charge of approximately $400,000 in the first quarter of 2013, primarily representing cash payments for severance and other personnel-

Table of Contents

related expenses. Severance payments were paid out during the second quarter of 2013 and will continue into the fourth quarter of 2013.

Our Therapy

Ixmyelocel-T is a unique multicellular product derived from an adult patient's own bone marrow. Our proprietary cell manufacturing process significantly expands the mesenchymal stromal cells (MSCs) and M2-like anti-inflammatory macrophages in the patient's bone marrow mononuclear cells while retaining many of the hematopoietic cells. These cell types are known to regulate the immune response and play a key role in tissue repair and regeneration by resolving pathologic inflammation, promoting angiogenesis, and remodeling ischemic tissue. Ixmyelocel-T is the only multicellular product known to have expanded cell populations of both MSCs and M2-like anti-inflammatory macrophages.

MSCs and M2-like macrophages have a wide range of biological activities that promote repair and regeneration of damaged tissues through the paracrine effects of their secreted factors, as well as their direct cell activities. These cells produce high levels of potent anti-inflammatory and angiogenic factors, as well as factors involved in extracellular matrix remodeling. These cells also have direct activities such as phagocytosis of cellular debris and apoptotic cells, which control the inflammatory response, uptake of LDL and removal of cholesterol, and remodeling of extracellular matrix. We believe that, together, these

paracrine effects and direct cell activities are responsible for ixmyelocel-T's demonstrated therapeutic effects of resolving inflammation, promoting angiogenesis, and remodeling and repairing damaged tissue.

Ixmyelocel-T has several features that we believe are primarily responsible for success in treating adult patients with severe ischemic cardiovascular diseases such as DCM and critical limb ischemia:

Patient-specific (autologous) — we start with the patient's own cells, which are accepted by the patient's immune system, allowing the cells to integrate into existing functional tissues. We believe that this characteristic of our therapy eliminates both the risk of rejection and the need to use immunosuppressive therapy pre- or post-therapy. Our data also suggests that ixmyelocel-T provides the potential for long-term engraftment and tissue repair.

Expanded — we begin with a small amount of bone marrow from the patient (up to 60 ml) and significantly expand the number of certain cell types, primarily MSCs and M2-like anti-inflammatory macrophages, to a substantially greater number than are present in the patient's own bone marrow (up to 200 times the number of certain cell types compared with the starting bone marrow).

Multicellular — we believe the multiple cell types in ixmyelocel-T, which are normally found in bone marrow but in smaller quantities, possess the key functions required for reducing chronic inflammation and promoting angiogenesis and tissue repair. By reducing inflammation, we believe that ixmyelocel-T provides the ideal conditions to allow for the growth of new tissue and blood vessels.

Minimally invasive — our procedure for collecting bone marrow can be performed in an outpatient setting and takes approximately 15 minutes. Administration of ixmyelocel-T for the treatment of DCM is performed in the cardiac catheterization laboratory using a cell injection catheter system in a one-time procedure. For diseases such as CLI, administration of ixmyelocel-T is performed with a syringe in an outpatient setting in a one-time, approximately 20 minute procedure.

Safe — bone marrow and bone marrow-derived therapies have been used safely and efficaciously in medicine for over three decades. Ixmyelocel-T leverages this body of scientific study and medical experience, and appears well tolerated in over 200 patients treated to date.

Our Technology Platform

Our patient-specific multicellular therapies are manufactured using the Company's proprietary Aastrom Replicell System (ARS) cell manufacturing system. Our manufacturing process is conducted in a highly-automated, fully-closed and rigorously controlled system. Our system is highly scalable and reproducible and located in a 5,000-

Table of Contents

square-foot centralized manufacturing facility in Ann Arbor, Michigan. Production is conducted under current Good Manufacturing Practices (cGMP) guidelines required by the FDA with current annual capacity to treat up to 3,000 patients.

Our Strategy

Our objective is to become the leading global biotechnology company in the development, manufacture, and commercialization of autologous multicellular therapies for the treatment of severe ischemic cardiovascular diseases. To achieve this objective, we intend to:

- Complete our phase 2b ixCELL-DCM clinical study for the treatment of advanced heart failure due to ischemic DCM and, if successful, progress ixmyelocel-T into pivotal phase 3 clinical studies for this orphan indication.
- Complete patient follow-up in the REVIVE-CLI study to evaluate safety and efficacy endpoints, and pursue opportunities through investigator-sponsored studies and strategic relationships to continue to develop ixmyelocel-T as a stand-alone and/or adjunct therapy for the treatment of critical limb ischemia.
- Conduct additional preclinical and clinical studies of ixmyelocel-T to pursue additional high-value indications for the treatment of severe ischemic cardiovascular diseases.
- Utilize our proprietary ARS cell-expansion manufacturing platform to expand our product portfolio of cell therapies for the treatment of immune/inflammatory, cardiovascular and fibrovascular diseases.
- Leverage our leading proprietary cell manufacturing platform and expertise to provide manufacturing services and capabilities to other development and commercial-stage biopharmaceutical companies.
- Prepare to commercialize ixmyelocel-T through continued development of our internal commercialization capabilities and/or strategic partnerships for North America, Europe and Asia.

Clinical Development Programs

Our clinical development programs are focused on addressing areas of high unmet medical needs in severe, chronic ischemic cardiovascular diseases. We have completed our Phase 1/2 clinical trials in DCM and launched the randomized, placebo-controlled, double-blinded Phase 2b ixCELL-DCM clinical trial in the fourth quarter of 2012. Our DCM development program has received Orphan Drug designation from the FDA.

Results to date in our clinical trials may not be indicative of results obtained from subsequent patients enrolled in those trials or from future clinical trials. Further, our future clinical trials may not be successful or we may not be able to obtain the required Biologic License Application (BLA) approval to commercialize our products in the United States in a timely fashion, or at all. See "Risk Factors" included in Item 3 of our Form S-1/A filed with the SEC on July 25, 2013.

Dilated Cardiomyopathy

Background

DCM is a severe, chronic cardiovascular disease that leads to weakening of the heart muscle, enlargement of the heart, and reduction of the pumping function of the heart to the point that blood circulation is impaired. Patients with DCM typically present with symptoms of congestive heart failure, including

limitations in physical activity and shortness of breath. DCM is now the third leading cause of heart failure and the leading cause of heart transplantation in the U.S. There are two types of DCM: ischemic and non-ischemic. Ischemic DCM, the most common form representing an estimated 60% of all DCM patients, is associated with atherosclerotic cardiovascular disease. These refractory ischemic DCM patients are currently the target patient population for our clinical development of ixmyelocel-T, with approximately 175,000 patients in the U.S. alone. Patient prognosis depends on the stage and cause of the disease but is typically characterized by a very poor quality of life and a high mortality rate.

Current treatments for refractory ischemic DCM patients are limited to heart transplantation and placement of left ventricular assist devices (LVADs). There are less than 2,500 heart transplantations in the U.S. each year.

Table of Contents

Many refractory DCM patients are not eligible for heart transplantation and transplants are extremely expensive at an estimated cost of over $1 million. LVADs are also expensive at an estimated cost of over $175,000 and have a mortality rate of 50% at two years.

In February 2007, the FDA granted Orphan Drug designation to ixmyelocel-T for the treatment of DCM. Our DCM development program is currently in Phase 2b clinical development. We completed follow up on two U.S. Phase 1/2 trials investigating surgical and catheter-based delivery for our product in the treatment of DCM. The final results from these Phase 1/2 clinical trials were presented at the Society for Cardiovascular Angiography and Interventions (SCAI) meeting on May 10, 2012.

Surgical Trial Program — DCM

We completed enrollment of 40 ischemic and non-ischemic DCM (NIDCM) patients in the IMPACT-DCM clinical trial in January 2010 and the final patient was treated in March 2010. Participants in the IMPACT-DCM clinical trial were required to have New York Heart Association (NYHA) functional class III or IV heart failure, a left ventricular ejection fraction (LVEF) of less than or equal to 30% (55-70% is typical for a healthy person), and meet other eligibility criteria, including optimized medical therapy. Patients were randomized in an approximate 2:1 ratio of treatment to control group. Patients in the treatment group received our therapy through direct injection into the heart muscle during minimally invasive-surgery (involving a chest incision of approximately 2 inches). The primary objective of this study was to assess the safety of ixmyelocel-T in patients with DCM. Efficacy measures included cardiac dimensions and tissue mass, cardiac function (e.g., cardiac output, LVEF, cardiopulmonary exercise testing parameters), cardiac perfusion and viability, as well as other efficacy endpoints. NYHA functional class and quality of life were also assessed. Patients were followed for 12 months after treatment with an additional two year follow-up phone call recently completed for all patients.

Patients in the ischemic DCM (IDCM) group who were treated with ixmyelocel-T experienced a lower percentage of major adverse cardiac events (MACE) compared to control subjects. The majority of ixmyelocel-T treated subjects (both IDCM and NIDCM) had improved NYHA Class over 12 months. There was also a trend toward improved function with a higher percentage of ixmyelocel-T treated IDCM subjects showing improved performance in the 6-minute walk as compared to IDCM control subjects. Following the week of surgery, adverse events were comparable between the treatment and control groups.

Catheter Trial Program — DCM

The Catheter-DCM clinical trial was designed to explore catheter-based direct injection delivery of ixmyelocel-T to treat DCM patients. This multi-center, randomized, controlled, prospective, open-label, Phase 2 study enrolled DCM patients at clinical sites in the United States.

We reported final 12-month results from the Catheter-DCM Phase 2 trial at the SCAI 2012 Scientific Sessions on May 10, 2012. The trial included 22 IDCM and NIDCM patients with a NYHA heart failure class of III or IV, or moderate to severe heart failure, and a left ventricular ejection fraction of less than or equal to 30 percent, and meet other eligibility criteria including optimized medical therapy. Patients were randomized in an approximate 2:1 ratio of treatment to control group. Patients in the treatment group received therapy through transendocardial catheter injection and were followed at three, six and 12 months. IDCM patients who received ixmyelocel-T had a lower mean number of MACE (0.22 compared to 1.67 in the control group). IDCM patients who received the treatment were more likely to see improvement in NYHA class, six-minute walking distance and ejection fraction, compared to those in the control group. No consistent trends were noted in NIDCM patients. Adverse events were comparable between the treatment and control group.

Phase 2b Clinical Program — ixCELL-DCM

In February 2013, several sites began screening patients with ischemic DCM in the ixCELL-DCM trial, which is a randomized, double-blind, placebo-controlled clinical trial. The first patient was randomized in April 2013. The Phase 2b ixCELL-DCM trial will enroll 108 ischemic DCM patients. To be eligible, patients must be between the ages of 30 and 85, not be a candidate for reasonable revascularization procedures, have a LVEF less than or equal to 35%, and have NYHA class III or IV heart failure. Patients will be randomized 1:1 and followed for 12 months for

Table of Contents

the primary efficacy composite endpoint, defined as all-cause deaths, all-cause hospitalizations, and unplanned outpatient emergency department visits to treat acute decompensated heart failure. Secondary endpoints include clinical, functional, structural, symptomatic, quality of life, and biomarker measures evaluated at 3, 6 and 9 months. Patients will be followed for an additional 12 months for safety. We anticipate that enrollment will occur at approximately 35 sites across the U.S. and Canada and be completed by the end of the first quarter of 2014, with top-line data in the second quarter of 2015.

Critical Limb Ischemia

Background

CLI is the most serious and advanced stage of peripheral arterial disease (PAD) resulting from chronic inflammation and lipid accumulation. PAD is a chronic atherosclerotic disease that progressively restricts blood flow in the limbs and can lead to serious medical complications. This disease is often

associated with other serious clinical conditions including hypertension, cardiovascular disease, dyslipidemia, diabetes, obesity and stroke. CLI is used to describe patients with chronic ischemia-induced pain (even at rest) or tissue loss (ulcers or gangrene) in the limbs, often leading to amputation and death. Many CLI patients are considered "unsuitable for revascularization" as they have exhausted all other reasonable treatment options and will likely require amputation. The one-year and four-year mortality rates for CLI patients that are unsuitable for revascularization that progress to amputation are approximately 25% and 70%, respectively. Ixmyelocel-T, our disease modifying therapy with multiple functions, has shown significant promise in the treatment of CLI patients with existing tissue loss that are unsuitable for revascularization. Currently, there are an estimated 250,000 CLI patients that are unsuitable for revascularization in the U.S.

Phase 2b Clinical Program — RESTORE CLI

Our U.S. Phase 2b RESTORE-CLI program was a multi-center, randomized, double-blind, placebo-controlled clinical trial. This clinical trial was designed to evaluate the safety and efficacy of ixmyelocel-T in the treatment of patients with CLI that are unsuitable for revascularization. It was the largest multi-center, randomized, double-blind, placebo-controlled cellular therapy study ever conducted in CLI patients. We completed enrollment of this trial in February 2010 with a total of 86 patients at 18 sites across the United States, with the last patient treated in March 2010. These patients were followed for a period of 12 months after treatment. In addition to assessing the safety of our product, efficacy endpoints included time to first occurrence of treatment failure — the trial's primary efficacy endpoint — (defined as major amputation, all-cause mortality, doubling in wound surface area and de novo gangrene), amputation-free survival (defined as major amputation and all-cause mortality), major amputation rates, level of amputation, wound healing, patient quality of life and pain scores. The primary purpose of the trial was to assess performance of our therapy and, if positive, prepare for a Phase 3 program.

Final results of the Phase 2b RESTORE-CLI clinical trial were presented at the American Heart Association Scientific Sessions in November 2011 and published in the peer-reviewed journal Molecular Therapy in April 2012. Patients in the treatment arm showed a 62% reduction in risk relative to placebo in the primary efficacy endpoint of time to first occurrence of treatment failure (p=0.0032). While the study was not powered to show statistical significance in the secondary endpoint of amputation free survival, results from a subgroup of 45 patients with wounds at baseline (the approximate profile of the Phase 3 patient population) showed a 61% reduction in risk (21% ixmyelocel-T treated versus 44% control event rate; p=0.0802). The study also met the primary safety endpoint with no meaningful differences between the treated and control groups.

Phase 3 Clinical Program — REVIVE

In February 2012, several principal investigators participating in the pivotal Phase 3 REVIVE clinical trial for patients with CLI that are unsuitable for revascularization began screening patients. The first patient was randomized and aspirated in May 2012. We had previously received Fast Track Designation from the FDA for use of ixmyelocel-T for CLI in October 2010 and reached agreement with the FDA on a Special Protocol Assessment (SPA) in July 2011. Patients were randomized 1:1 and were to be followed for 12 months for the primary efficacy endpoint of amputation-free survival. On March 27, 2013 we announced that we were stopping enrollment in the Phase 3 REVIVE clinical trial. We had enrolled approximately 40 patients through that date and plan to continue

following the patients for 12 months for safety and certain efficacy measures. We expect to have results from this study in the second quarter of 2014.

Results of Operations

Research and development expenses decreased to $3,676,000 for the quarter ended June 30, 2013 from $7,069,000 for the quarter ended June 30, 2012. For the six months ended June 30, 2013, research and development expenses decreased to $9,214,000 from $13,865,000 during the same period a year ago. The decrease is due to a reduction in clinical trial expenses due to stopping of enrollment in the Phase 3 REVIVE clinical trial, the execution of a corporate restructuring that we announced on March 27, 2013 that reduced staff and operating expenses and the reversal of non-cash stock compensation expense due to the restructuring.

Our major ongoing research and development programs are focused on the clinical development of ixmyelocel-T for treatment of severe, chronic cardiovascular diseases. The following table summarizes the approximate allocation of cost for our research and development projects (*in thousands)*:

	Quarter Ended June 30,		Six Months Ended June 30,	
	2012	2013	2012	2013
Critical Limb Ischemia	$ 5,684	$ 1,167	$ 11,793	$ 5,638
Dilated Cardiomyopathy	1,385	2,509	2,072	3,118
Other	—	—	—	8
Total research and development expenses	$ 7,069	$ 3,676	$ 13,865	$ 9,214

Selling, general and administrative expenses decreased to $1,560,000 for the quarter ended June 30, 2013 compared to $2,231,000 for the quarter ended June 30, 2012. For the six months ended June 30, 2013, selling, general and administrative expenses decreased to $3,193,000 from $3,993,000 during the same period a year ago. The decrease is due to the execution of a corporate restructuring that reduced staff and operating expenses and the reversal of non-cash stock compensation expense due to the restructuring.

The income related to the non-cash change in fair value of warrants was $345,000 for the quarter ended June 30, 2013 compared to $1,948,000 for the quarter ended June 30, 2012. For the six months ended June 30, 2013, the non-cash change in the fair value of warrants was $1,964,000, compared to $1,048,000 for the same period a year ago. The decrease in value was primarily due to the decline in our stock price, the reduction in warrants outstanding and the reduction in the time to maturity. Fluctuations in the fair value of warrants in future periods could result in significant non-cash adjustments to the condensed consolidated financial statements, however any income or expense recorded will not impact our cash and cash equivalents, operating expenses or cash flows.

There was no non-cash accretion of convertible preferred stock for the quarter ended June 30, 2013, compared to $1,231,000 for the quarter ended June 30, 2012. For the six months ended June 30, 2013, the non-cash accretion of convertible preferred stock was $1,236,000, compared to $1,520,000 for the same period a year ago. The decrease in accretion is based on our assessment that it is not probable that the Series B-1 preferred stock will be redeemed as a

result of the decrease in the Company stock price. The Series B-1 preferred stock dividends are no longer required to be accreted to the carrying value up to its redemption value.

Our net loss attributable to common shareholders was $4,889,000, or $0.11 per share, for the quarter ended June 30, 2013 compared to $8,566,000, or $0.22 per share, for the quarter ended June 30, 2012. For the six months ended June 30, 2013, our net loss was $11,696,000, or $0.26 per share, compared to $18,310,000, or $0.47 per shares, for the same period a year ago. The changes in net loss attributable to common shareholders are primarily due to the non-cash change in the fair value of warrants and decreases in research and development and general and administrative expenses.

Table of Contents

Non-cash stock-based compensation expense included in research and development expenses and general, selling and administrative expenses is summarized in the following table (*in thousands)*:

	Quarter Ended June 30,		Six Months Ended June 30,	
	2012	2013	2012	2013
Research and development	$ 755	$ 184	$ 1,199	$ (158)
General, selling and administrative	469	242	840	541
Total non-cash stock-based compensation expense (income)	$ 1,224	$ 426	$ 2,039	$ 383

The decrease in stock-based compensation expense is due primarily to the restructuring that was announced on March 27, 2013, and the forfeiture adjustment that resulted from the related reduction in workforce. The forfeiture adjustments for the six months ended June 30, 2013 for research and development and general, selling and administrative for were $968,000 and $157,000, respectively.

Liquidity and Capital Resources

We are currently focused on utilizing our technology to produce patient specific cell-based therapies for use in severe chronic ischemic cardiovascular diseases. At such time as we satisfy, if at all, applicable regulatory approval requirements, we expect the sales of our cell-based therapies 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.

We expect that we will need to raise significant additional funds or pursue strategic transactions or other strategic alternatives in order to complete our product development programs, complete clinical trials needed to market and commercialize our products. To date, we have financed our operations primarily through public and private sales of our equity securities, and we expect to continue to seek to obtain the required capital in a similar manner. During the six months ended June 30, 2013, we raised gross proceeds of $2,451,000 utilizing our ATM. As a development stage company, we have never been profitable and do not anticipate having net income unless significant product sales commence. With respect to our current activities, such sales are not likely to occur until we obtain additional funding, complete the required clinical trials for regulatory approvals, and receive the necessary approvals to market our products. Through June 30, 2013, we had accumulated a net loss attributable to common shareholders of approximately $287,011,000. We cannot provide any assurance that we will be able to achieve profitability on a sustained basis, if at all, obtain the required funding, obtain the required regulatory approvals, commence product sales or complete additional corporate partnering or acquisition transactions.

We have also, but to a lesser degree, financed our operations through grant funding, payments received under research agreements and collaborations, interest earned on cash, cash equivalents, and short-term investments, stock option and warrant exercises and funding under equipment leasing agreements. These financing sources, in addition to our public and private sales of our equity securities, have generally allowed us to maintain adequate levels of cash and other liquid investments.

Our cash and cash equivalents totaled $4,494,000 at June 30, 2013, a decrease of $9,144,000 from December 31, 2012. During the six months ended June 30, 2013, the primary uses of cash and cash equivalents included $11,461,000 for our operations and working capital requirements for the Phase 2 and Phase 3 clinical programs for ixmyelocel-T. As of June 30, 2013 we had $4,332,000 of cash deposited into an Insured Cash Sweep (ICS) program which is administered by Bank of New York Mellon. This program maximizes our Federal Deposit Insurance Company (FDIC) coverage by dividing our ICS funds into amounts under the standard FDIC maximum and places these amounts with other ICS Network member banks (each an FDIC-insured institute). These funds are placed in savings accounts at the member banks earning interest while still maintaining insurance coverage.

Table of Contents

Our future cash requirements will depend on many factors, including continued scientific progress in our research and development programs, the scope and results of clinical trials, the time and costs involved in obtaining regulatory approvals, the costs involved in filing, prosecuting and enforcing patents, competing technological and market developments, costs of possible acquisition or development of complementary business activities and the cost of product commercialization. We do not expect to generate positive cash flows from operations for at least the next several years due to the expected spending for research and development programs and the cost of commercializing our product candidates. We intend to seek additional funding through research and development agreements or grants, distribution and marketing agreements and through public or private debt or equity financing transactions. Successful future operations are subject to several technical and risk factors, including our continued ability to obtain future funding, satisfactory product development, obtaining required regulatory approvals and market acceptance for our products.

As of June 30, 2013, we have $4,494,000 of cash and cash equivalents. This is not sufficient to sustain our operations for one year. In light of our financial position, we are evaluating strategic and financial opportunities in the short-term in order to maintain adequate liquidity through December 31, 2013 and beyond. On July 25, 2013, we filed Form S-1/A to register shares of common stock to raise additional capital of up to $17,250,000. Additionally, we could sell shares through an At the Market Sales Agreement (ATM) in order to raise additional capital, though there are certain factors, such as volume of trading in our stock, our stock price and the ability to terminate the agreement with notice, which could limit the amount we could raise in a short period of time. On a longer term basis, we will need to raise additional funds in order to complete product development programs and complete clinical trials needed to market and commercialize our products. We cannot be certain that such funding will be available on favorable terms, if at all. Some of the factors that will impact our ability to raise additional capital and our overall success include: the rate and degree of progress for our product development, the rate of regulatory approval to proceed with clinical trial programs, the level of success achieved in clinical trials, the requirements for marketing authorization from regulatory bodies in the United States and other countries, the liquidity and market volatility of our equity securities, regulatory and manufacturing requirements and uncertainties, technological developments by competitors, and other factors. If we cannot raise such funds, we will not be able to develop or enhance products, take advantage of future opportunities, or respond to competitive pressures or unanticipated requirements, which would have a material adverse impact on our business, financial condition and results of operations. As a result of the need to raise additional capital and a net capital deficiency, there is uncertainty regarding our ability to maintain liquidity sufficient to operate our business effectively over at least the next twelve months, which raises substantial doubt as to our ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Off-Balance Sheet Arrangements

At June 30, 2013, we were not party to any off-balance sheet arrangements.

Forward-Looking Statements

This report, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 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,” “management believes,” “we believe,” “we 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. The factors described in Part I, Item 3, “Risk Factors,” on Form S-1/A filed with the SEC on July 25, 2013, among others, could have a material adverse effect upon our business, results of operations and financial conditions.

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

Table of Contents

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 statements regarding:

- potential strategic collaborations with others;
- future capital needs and financing sources;
- adequacy of existing capital to support operations for a specified time;
- product development and marketing plan;
- features and successes of our cellular therapies;
- manufacturing and facility capabilities;
- clinical trial plans and anticipated results;
- anticipation of future losses;
- commercialization plans; and
- revenue expectations and operating results.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

As of June 30, 2013, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates or credit conditions on our securities portfolio.

Our vendors in countries outside the United States are typically paid in Euro. However, such expenditures have not been significant to date. Accordingly, we are not directly exposed to significant market risks from currency exchange rate fluctuations. We believe that the interest rate risk related to our accounts receivable is not significant. We manage the risk associated with these accounts through periodic reviews of the carrying value for non-collectability and establishment of appropriate allowances. We do not enter into hedging transactions and do not purchase derivative instruments.

Table of Contents

Item 4. Controls and Procedures

Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Accounting Officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2013. The term "disclosure controls and procedures" is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Based on their evaluation, our management, including our Chief Executive Office and Chief Accounting Officer, concluded that our disclosure controls and procedures were effective.

Changes in Internal Control Over Financial Reporting

During the quarter ended June 30, 2013, there were no changes made in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Table of Contents

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

From time to time we receive threats or may be subject to litigation matters incidental to our business. However, we are not currently a party to any material pending legal proceedings.

Item 1A. Risk Factors

Information regarding risk factors of the Company is set forth in Part I, Item 3, "Risk Factors," on Form S-1/A, which was filed with the Securities and Exchange Commission on July 25, 2013. There have been no material changes in our risk factors from those disclosed in Part 1, Item 3, "Risk Factors" on Form S-1/A.

Item 6. Exhibits

The Exhibits listed in the Exhibit Index immediately following the Signature, are filed as a part of this Quarterly Report on Form 10-Q.

Table of Contents

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: August 7, 2013

AASTROM BIOSCIENCES, INC.

/s/ DOMINICK C. COLANGELO
Dominick C. Colangelo
President and Chief Executive Officer
(Principal Executive Officer)

/s/ BRIAN D. GIBSON
Brian D. Gibson
Vice President of Finance, Chief Accounting Officer and Treasurer
(Principal Financial and Accounting Officer)

Table of Contents

EXHIBIT INDEX

Exhibit No.	Description
10.1	Lease agreement between Domino's Farms Office Park, LLC and the Company, as amended (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 9, 2013).
10.2#	Employment Agreement, dated as of April 3, 2013, by and between the Company and Daniel R. Orlando (incorporated herein by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on April 9, 2013).
10.3#	Executive Employment Agreement, executed March 4, 2013 and effective March 1, 2013, by and between the Company and Dominick C. Colangelo (incorporated herein by reference to Exhibit 10.1 to the Company's Report on Form 8-K, filed on March 9, 2013).

31.1	Certification by Chief Executive Officer required by Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934 (furnished herewith).
31.2	Certification by Chief Accounting Officer required by Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934 (furnished herewith).
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

Table of Contents

GLOSSARY

TERM	DEFINITION
Adverse Event	Any adverse change in health or “side-effect” that occurs in a person participating in a clinical trial, from the time they consent to joining the trial until a pre-specified period of time after their treatment has been completed.
Autologous (Patient Specific)	Originating from the patient receiving treatment. (Aastrom uses only autologous cells).
BLA — Biologics License Application	An application containing product safety, efficacy and manufacturing information required by the FDA to market biologics products in the U.S.
CLI — Critical Limb Ischemia	An atherosclerotic vascular disease characterized by insufficient blood flow in the lower extremities that causes severe pain, tissue loss or both.
Controlled Clinical Trial	A clinical study that compares patients receiving a specific treatment to patients receiving an alternate treatment for the condition of interest. The alternate treatment may be another active treatment, standard of care for the condition and/or a placebo (inactive) treatment.
DCM — Dilated Cardiomyopathy	A chronic cardiac disease where expansion of the patient’s heart reduces the pumping function to a point that the normal circulation of blood cannot be maintained.
Double-Blind Clinical Trial	Clinical trials in which neither the patient nor the physician know if the patient received the experimental treatment or a control/placebo.
FDA — Food & Drug Administration	The U.S. FDA ensures that medicines, medical devices, and radiation-emitting consumer products are safe and effective. Authorized by Congress to enforce the Federal Food, Drug, and Cosmetic Act and several other public health laws, the agency monitors the manufacture, import, transport, storage, and sale of $1 trillion worth of goods annually.
GMP — Good Manufacturing Practice	GMP regulations require that manufacturers, processors, and packagers of drugs, medical devices, some food, and blood take proactive steps to ensure that their products are safe, pure, and effective. GMP regulations require a quality approach to manufacturing, enabling companies to minimize or eliminate instances of contamination, mix-ups, and errors.
Hematopoietic Cells	All of the cells in the blood system including myeloid (monocytes and macrophages, neutrophils, basophils, eosinophils, erythrocytes, megakaryocytes/platelets, dendritic cells), and lymphoid lineages (T-cells, B-cells, NK-cells).

Ischemia	A shortage or inadequate flow of blood to a body part (commonly an organ or tissue) caused by a constriction or obstruction of the blood vessels supplying it.
LVEF — Left Ventricular Ejection Fraction	The fraction of blood pumped out of the left

Table of Contents

	ventricle with each heart beat.
Mesenchymal stromal cells	Connective tissue cells that, in the case of bone marrow derived MSC, function to support blood forming cells and secrete anti-inflammatory factors.
M2 anti-inflammatory macrophages	Specialized blood cells that remove damaged tissue and bacteria and secrete anti-inflammatory factors.
Open-label Clinical Trial	A trial in which both the treating physician and the patient know whether they are receiving the experimental treatment or control/placebo treatment.
Orphan Drug Designation	“Orphan drug” refers to a drug or biologic that is intended for use in the treatment of a rare disease or condition. Orphan drug designation from the U.S. Food and Drug Association (FDA) qualifies the sponsor to receive certain benefits from the Government in exchange for developing the drug for a rare disease or condition. The drug must then go through the FDA marketing approval process like any other drug or biologic which evaluates for safety and efficacy. Usually a sponsor receives a quicker review time and lower application fees for an orphan product.
Phase 1 Clinical Trial	A Phase 1 trial represents an initial study in a small group of patients to test for safety and other relevant factors.
Phase 2 Clinical Trial	A Phase 2 trial represents a study in a moderate number of patients to assess the safety and efficacy of a product.
Phase 2b Clinical Trial	A Phase 2b trial is a moderately-sized Phase 2 trial that is more specifically designed assess the efficacy of a product than a Phase 2a trial.
Phase 3 Clinical Trial	Phase 3 studies are initiated to establish safety and efficacy in an expanded patient population at multiple clinical trial sites and are generally larger than trials in earlier phases of development.
Prospective Clinical Trial	A clinical trial in which participants are identified and then followed throughout the study going forward in time.
Randomized Clinical Trial	A clinical trial in which the participants are assigned randomly to different treatment groups.

EXHIBIT 31.1

CERTIFICATION

I, Dominick C. Colangelo, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Aastrom Biosciences, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2013

/s/ DOMINICK C. COLANGELO

Dominick C. Colangelo

President and Chief Executive Officer

(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION

I, Brian D. Gibson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Aastrom Biosciences, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2013

/s/ BRIAN D. GIBSON

Brian D. Gibson

Vice President of Finance, Chief Accounting Officer and Treasurer

(Principal Financial and Accounting Officer)

EXHIBIT 32.1

18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Aastrom Biosciences, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2013, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Company certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 ("Section 906"), the following:

(1) The Report fully complies with the requirements of section 13(a) and 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 7, 2013

/s/ DOMINICK C. COLANGELO
Dominick C. Colangelo
President and Chief Executive Officer
(Principal Executive Officer)

/s/ BRIAN D. GIBSON
Brian D. Gibson
Vice President of Finance, Chief Accounting Officer and Treasurer
(Principal Financial and Accounting Officer)

A signed original of this written statement required by Section 906 has been provided to Aastrom Biosciences, Inc. and will be retained by Aastrom Biosciences, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.