Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

NeoStem, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

22-2343568

(I.R.S. Employer Identification Number)

420 Lexington Avenue, Suite 350 New York, New York 10170 (212) 584-4180

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

Catherine M. Vaczy, Esq.

General Counsel

NeoStem, Inc.

420 Lexington Avenue, Suite 350, New York, New York 10170

(212) 584-4180

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

Copy to:

Alan Wovsaniker, Esq. Lloyd Jeglikowski, Esq.

Lowenstein Sandler LLP 65 Livingston Avenue

Roseland, New Jersey 07068

Telephone: (973) 597-2500

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

the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:		
If any of the securities being registered on this Form are to be offered on a delayed or continuous other than securities offered only in connection with dividend or interest reinvestment plans.	•	
If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) the Securities Act registration statement number of the earlier effective registration statement	•	
If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.		
If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box: \Box		
If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box:		
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):		
Large accelerated filer \square	Accelerated filer x	
Non-accelerated filer □ (Do not check if a smaller reporting company)	Smaller reporting company \square	

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be Registered (1)(2)	Proposed Maximum Offering Price Per Share(2)	Proposed Maximum Aggregate offering Price (2)	Amount of registration fee (3)
Common stock, \$0.001 par value per share, underlying Common Stock Purchase Warrants	978,750	14.50	\$14,191,875	\$1,827.91
Common stock, \$0.001 par value per share, underlying Common Stock Purchase Warrants	575,500	5.10	\$2,935,050	\$378.03
Total	1,554,250		\$17,126,925	\$2,205.95

The Registrant has an existing "shelf" registration statement on Form S-3, File No. 333-173855, that was declared effective on June 13, 2011 and which expires on June 13, 2014 pursuant to Rule 415(a)(5) under the Securities Act. July 2011 Warrants to purchase 978,750 shares of common stock at an exercise price of \$14.50 per share and March 2012 Warrants to purchase 575,500 shares of common stock at an exercise price of \$5.10 per share, in each case issued under such registration statement, remain outstanding. This total of 1,554,250 shares of Common Stock are the shares being registered on this Registration Statement. The Registrant is filing this new Registration Statement for the sole purpose of ensuring that an effective Registration Statement covers the exercise of such previously issued July 2011 Warrants and March 2012 Warrants. Pursuant to Rule 415(a)(6) under the Securities Act, the filing fees previously paid in connection with the securities being registered hereunder will continue to be applied to such securities. In accordance with SEC rules, the Registrant may continue to offer and sell securities being registered hereunder during the grace period afforded by Rule 415(a)(5). Pursuant to Rule 415(a)(6), the offering of the unsold securities registered under the prior registration statement will be deemed terminated as of the effective date of this Registration Statement. If the Registrant sells any securities being registered hereunder during the grace period, the Registrant will identify in a pre-effective amendment to this Registration Statement the new amount of securities to be carried forward to this Registration Statement in reliance upon Rule 415(a)(6).

- (1) The securities being registered hereunder include such indeterminate number of shares of common stock that may be issuable with respect to the securities being registered hereunder as a result of stock splits, stock dividends or similar transactions, in each case determined in accordance with Rule 416 under the Securities Act of 1933, as amended (the "Securities Act").
- (2) The shares of common stock registered hereunder are issuable upon the exercise of (A) warrants to purchase an aggregate of 978,750 shares of common stock at an exercise price of \$14.50 per share (the "July 2011 Warrants"), which July 2011 Warrants were previously issued in connection with the Registrant's July 2011 offering of units consisting of shares of common stock and July 2011 Warrants; and (B) warrants to purchase an aggregate of 575,500 shares of common stock at an exercise price of \$5.10 per share (the "March 2012 Warrants"), which March 2012 Warrants were previously issued in connection with the Registrant's March 2012 offering of units consisting of shares of the Registrant's common stock and March 2012 Warrants. The July 2011 Warrants and the March 2012 Warrants were issued and previously registered pursuant to the Registrant's Registration Statement on Form S-3 (File No. 333-173855).
- (3) The shares of common stock issuable upon the exercise of the July 2011 Warrants and the March 2012 Warrants were previously registered pursuant to the Registrant's Registration Statement on Form S-3 (File No. 333-173855). In connection with such previous registration of the shares of common stock issuable upon the exercise of the July 2011 Warrants and the March 2012 Warrants, the Registrant paid a registration fee of \$1,988.44. Pursuant to Rule 415(a)(6) under the Securities Act, the filing fees previously paid in connection with the securities being registered hereunder will continue to be applied to the same and no additional fee is required to be paid for the current registration statement.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

The Registrant has an existing "shelf" registration statement on Form S-3, File No. 333-173855, that was declared effective on June 13, 2011 and which expires on June 13, 2014 pursuant to Rule 415(a)(5) under the Securities Act (the "Prior Registration Statement"). The common stock registered pursuant to this Registration Statement consists of (A) shares of common stock underlying warrants to purchase an aggregate of 978,750 shares of common stock at an exercise price of \$14.50 per share (the "July 2011 Warrants"), which July 2011 Warrants were previously issued by the Registrant pursuant to the Prior Registration Statement and (B) shares of common stock underlying warrants to purchase an aggregate of 575,500 shares of common stock at an exercise price of \$5.10 per share (the "March 2012 Warrants"), which March 2012 Warrants were previously issued by the Registration pursuant to the Prior Registration Statement. This total of 1,554,250 shares of Common Stock are the shares being registered on this Registration Statement. The Registrant is filing this new Registration Statement for the sole purpose of ensuring that an effective Registration Statement covers the exercise of such previously issued July 2011 Warrants and March 2012 Warrants. In accordance with SEC rules, the Registrant may continue to offer and sell securities being registered hereunder during the grace period afforded by Rule 415(a)(5). Pursuant to Rule 415(a)(6), the offering of the unsold securities registered under the Prior Registration Statement will be deemed terminated as of the effective date of this Registration Statement. If the Registrant sells any securities being registered hereunder during the grace period, the Registrant will identify in a pre-effective amendment to this Registration Statement the new amount of securities to be carried forward to this Registration Statement in reliance upon Rule 415(a)(6).

SUBJECT TO COMPLETION, DATED JUNE 12, 2014

The information contained in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PROSPECTUS

NEOSTEM, INC.

1,554,250 of Common Stock Underlying Warrants Previously Issued

We are offering 1,554,250 shares of common stock ("Common Stock") issuable upon the exercise of outstanding warrants previously issued by us in July 2011 and March 2012 as follows:

- 978,750 shares of Common Stock underlying warrants exercisable at \$14.50 per share (the "July 2011 Warrants"); and
- 575,500 shares of Common Stock underlying warrants exercisable at \$5.10 per share (the "March 2012 Warrants").

In order to obtain the shares of Common Stock to which this prospectus relates, the holders of the warrants must pay the applicable exercise price. We will receive proceeds from any exercises of the warrants, but not from the sale of the underlying Common Stock. Please see the section titled "Plan of Distribution" on page 7 for more information regarding the offering. The March 2012 Warrants are callable by us in certain circumstances as described under the caption "Description of Securities - March 2012 Warrants", beginning on page 13.

Our Common Stock is listed on the Nasdaq Capital Market and traded under the symbol "NBS." On June 11, 2014, the last reported sales price of our Common Stock on the Nasdaq Capital Market was \$7.05 per share. There were 34,061,967 shares of our Common Stock outstanding as of June 9, 2014.

Investing in our Common Stock is speculative and involves a high degree of risk. See "Risk Factors" on page 6.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is, 2014.

TABLE OF CONTENTS

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	<u>1</u>
ABOUT THIS PROSPECTUS	<u>1</u>
PROSPECTUS SUMMARY	<u>3</u>
RISK FACTORS	<u>6</u>
USE OF PROCEEDS	7
PLAN OF DISTRIBUTION	<u>7</u>
DESCRIPTION OF SECURITIES	7
LEGAL MATTERS	<u>7</u>
EXPERTS	7
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE	<u>7</u>
WHERE YOU CAN FIND MORE INFORMATION	<u>8</u>

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this prospectus or the documents incorporated by reference herein constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of NeoStem, Inc. to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such factors include, among others, those set forth under the caption "Risk Factors." The words "believe," "expect," "anticipate," "intend," and "plan" and similar expressions identify forward-looking statements. Readers are cautioned not to place undue reliance on any of these forward-looking statements, which speak only as of the date the statement was made. NeoStem, Inc. undertakes no obligation to update any forward-looking statement.

ABOUT THIS PROSPECTUS

We have an existing "shelf" registration statement on Form S-3, File No. 333-173855, that was declared effective on June 13, 2011 and which expires on June 13, 2014 pursuant to Rule 415(a)(5) under the Securities Act (the "Prior Registration Statement"). The common stock registered pursuant to this Registration Statement consists of (A) shares of common stock underlying warrants to purchase an aggregate of 978,750 shares of common stock at an exercise price of \$14.50 per share (the "July 2011 Warrants"), which July 2011 Warrants were previously issued by the Registrant pursuant to the Prior Registration Statement and (B) shares of common stock underlying warrants to purchase an aggregate of 575,500 shares of common stock at an exercise price of \$5.10 per share (the "March 2012 Warrants"), which March 2012 Warrants were previously issued by the Registration pursuant to the Prior Registration Statement. We are filing this new Registration Statement for the sole purpose of ensuring that an effective Registration Statement covers the exercise of such previously issued July 2011 Warrants and March 2012 Warrants. In accordance with SEC rules, we may continue to offer and sell securities being registered hereunder during the grace period afforded by Rule 415(a)(5). Pursuant to Rule 415(a)(6), the offering of the unsold securities registered hereunder during the grace period, the Registrant will identify in a pre-effective amendment to this Registration Statement the new amount of securities to be carried forward to this Registration Statement in reliance upon Rule 415(a)(6).

It is important for you to read and consider all of the information contained in this prospectus and any supplement hereto before making any decision whether to invest in the Common Stock. You should also read and consider the information contained in the documents that we have incorporated by reference as described in "Where You Can Find More Information, and "Incorporation of Certain Information by Reference" in this prospectus.

We have not authorized anyone to give any information or to make any representations different from that which is contained or incorporated by reference in this prospectus or any applicable prospectus supplement in connection with the offer made by this prospectus and, if given or made, such information or representations must not be relied upon as having been authorized by NeoStem, Inc. or any such person. Neither the delivery of this prospectus or any applicable prospectus supplement nor any sale made hereunder and thereunder shall under any circumstances create an implication that there has been no change in the affairs of NeoStem, Inc. since the date hereof. This prospectus or any applicable prospectus supplement does not constitute an

offer or solicitation by anyone in any state in which such offer or solicitation is not authorized or in which the person making such offer or solicitation is qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.	is not

PROSPECTUS SUMMARY

Investing in our securities involves a high degree of risk. This summary highlights some information contained or incorporated by reference in this prospectus. It may not contain all of the information that is important to you. Important information is incorporated by reference into this prospectus. To understand this offering fully, you should read carefully the entire prospectus, including "Risk Factors", and the other financial statements and documents incorporated by reference in this prospectus.

About NeoStem

NeoStem, Inc. ("we," "NeoStem" or the "Company") is a leader in the emerging cellular therapy industry. We are pursuing the preservation and enhancement of human health globally through the development of cell based therapeutics that prevent, treat or cure disease. We have multiple cell therapy platforms that work to address the pathology of disease using a person's own cells to amplify the body's natural repair mechanisms including enhancing the destruction of cancer initiating cells, repairing and replacing damaged or aged tissue, cells and organs and restoring their normal function. We believe that cell therapy will play a large role in changing the natural history of diseases as more breakthrough therapies are developed, ultimately lessening the overall burden of disease on patients and their families as well as the economic burden that these diseases impose upon modern society.

Our business includes the development of novel proprietary cell therapy products, as well as a revenue-generating contract development and manufacturing service business that we leverage for the development of our therapeutics while providing service to other companies in the cell therapy industry developing products. The combination of our own therapeutic development business and a revenue-generating service provider business provides the Company with unique capabilities for cost effective in-house product development and immediate revenue and future cash flow to help underwrite our internal development programs. This business model enables the Company to be opportunistic in growing its pipeline as evidenced by the Company's stockfor-stock acquisition in May 2014 of California Stem Cell, Inc. ("CSC"), a cell biotechnology company that is developing cellular immunotherapies for cancer, an area we view to be one of the most promising sub-sectors in biotechnology. CSC, now known as NeoStem Oncology, LLC, developed the Company's Targeted Immunotherapy Program for cancer through the development of its lead product candidate, Melapuldencel-T, to treat Stage IV or recurrent Stage III melanoma. The Phase 3 protocol is the subject of a Special Protocol Assessment (SPA), indicating that the Food and Drug Administration ("FDA") is in agreement with the design, clinical endpoints, and planned clinical analyses of the Phase 3 trial that will serve as the basis for a Biologics License Application ("BLA"). This protocol calls for enrolling 250 patients and the study is expected to be initiated in 2014.

We are currently developing therapies to address ischemia through our CD34 Cell Program. Ischemia occurs when the supply of oxygenated blood in the body is restricted. We seek to reverse this restriction through the development and formation of new blood vessels. AMR-001 is our most clinically advanced product candidate in our CD34 Cell Program and is being developed to treat damaged heart muscle following an acute myocardial infarction (heart attack) ("AMI"). In December 2013, the Company completed enrollment in its PreSERVE AMI study. PreSERVE AMI is a randomized, double-blinded, placebo-controlled Phase 2 clinical trial testing AMR-001, an autologous (donor and recipient are the same) adult stem cell product for the treatment of patients with left ventricular dysfunction following acute ST segment elevation myocardial infarction (STEMI). With the last patient of the planned 160 patient trial infused in late December 2013, we expect the last patient six-month follow-up to occur in June 2014. Once the primary end point six-month data is collected, the data set will be locked and analysis will begin with a submission for a possible presentation of the study at the American Heart Association's Scientific Sessions to be held November 15-19, 2014. If approved by Food and Drug Administration (the "FDA") and/or other worldwide regulatory agencies following successful completion of further trials, AMR-001 would address a significant medical need for which there is currently no effective treatment, potentially improving longevity and quality of life for those suffering a STEMI, and positioning the Company to capture a meaningful share of this worldwide market. We also expect to advance the technology into other clinical indications such as chronic heart failure ("CHF"), traumatic brain injury ("TBI"), and/or critical limb ischemia ("CLI").

Another platform technology we are developing utilizes T Regulatory Cells ("Tregs") to treat diseases caused by imbalances in an individual's immune system. In collaborating with Becton-Dickinson and the University of California, San Francisco, we are utilizing this technology platform of our majority-owned subsidiary, Athelos Corporation ("Athelos"), to restore immune balance by enhancing Treg cell number and function. Tregs are a natural part of the human immune system and regulate the activity of T effector cells, the cells that are responsible for protecting the body from viruses and other foreign antigen exposure. When Tregs function properly, only harmful foreign materials are attacked by T effector cells. In autoimmune disease it is thought that deficient Treg activity permits the T effector cells to attack the body's own tissues, and in allergic diseases, like asthma, the immune system overreacts to harmless foreign substances. We expect to initiate a Phase 2 study of Treg based therapeutics to treat type 1 diabetes in 2014. We also expect to initiate a Phase 1 study in Canada of Treg based therapeutics in support of a steroid resistant asthma indication in 2014.

Pre-clinical assets include our VSEL TM (Very Small Embryonic Like) Technology regenerative medicine platform. Regenerative medicine holds the promise of improving clinical outcomes and reducing overall healthcare costs. We are working on a Department of Defense funded study of VSELs TM for the treatment of chronic wounds. Other preclinical work with VSELs TM includes exploring macular degeneration as a target indication.

Progenitor Cell Therapy, LLC ("PCT") is a contract manufacturer that generates revenue. This wholly owned subsidiary, which we acquired in 2011, is an industry leader in providing high quality manufacturing capabilities and support to developers of cell-based therapies to enable them to improve efficiencies and profitability and reduce capital investment for their own development activities. Since its inception more than 15 years ago, PCT has provided pre-clinical and clinical current Good Manufacturing Practice ("cGMP") development and manufacturing services to more than 100 clients. PCT has experience advancing regenerative medicine product candidates from product inception through rigorous quality standards all the way through to human testing, BLA filing and FDA product approval. PCT's core competencies in the cellular therapy industry include manufacturing of cell therapy-based products, engineering and innovation services, product and process development, cell and tissue processing, regulatory support, storage, distribution and delivery and consulting services. PCT has two cGMP, state-of-the art cell therapy research, development, and manufacturing facilities in New Jersey and California, serving the cell therapy community with integrated and regulatory compliant distribution capabilities. The Company is pursuing commercial expansion of our manufacturing operations both in the U.S. and internationally. Additionally, with the acquisition of NeoStem Oncology, PCT can leverage NeoStem Oncology's additional manufacturing capacity in Irvine, California as well as the personnel experience and expertise in immunotherapy to provide additional manufacturing and /or development work to advance NeoStem's platform technology as well as technologies of PCT's client base.

Strategic acquisitions have been the cornerstone of NeoStem's growth and have been selected in order to provide value to stockholders by taking advantage of the infrastructure we have created which includes strong development, regulatory and manufacturing expertise. By adding Melapuldencel-T, a late stage novel proprietary cancer cell therapy into our pipeline, we look to further advance towards our goal of delivering transformative cell based therapies to the market to help patients suffering from life-threatening medical conditions. Coupled with our best in class manufacturing capability, the stage is set for us to realize meaningful clinical development and manufacturing efficiencies, further positioning NeoStem to lead the cell therapy industry.

NeoStem Corporate Information

Our principal executive offices are located at 420 Lexington Avenue, Suite 350, New York, New York 10170, and our telephone number is (212) 584-4180. Our Common Stock is currently traded on the NASDAQ Capital Market under the symbol "NBS." We maintain a corporate website at www.neostem.com. The contents of our website are not incorporated by reference into this prospectus and should not be considered to be a part of this prospectus or relied upon in connection herewith.

NeoStem, Inc. was incorporated under the laws of the State of Delaware in September 1980 under the name Fidelity Medical Services, Inc. and commenced operations in the adult stem cell collection, processing and storage services business in January 2006. Unless otherwise stated, all references to "us," "our," "NeoStem," "we," the "Company" and similar designations refer to NeoStem, Inc.

This prospectus and the information incorporated by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus are the property of their respective owners.

The Offering

We are offering 1,554,250 shares of Common Stock issuable upon the exercise of outstanding warrants previously issued by us in July 2011 and March 2012 as follows:

- 978,750 shares of Common Stock underlying July 2011 Warrants exercisable at \$14.50 per share; and
- 575,500 shares of Common Stock underlying March 2012 Warrants exercisable at \$5.10 per share.

In order to obtain the shares of Common Stock underlying the warrants, the holders thereof must pay the applicable exercise price. We will receive proceeds from any exercises of the warrants, but not from the sale of the underlying Common

Stock. Please see the section titled "Plan of Distribution" on page 7 for more information regarding the offering. The March 2012 Warrants are callable by us in certain circumstances as described under the caption "Description of Securities - March 2012 Warrants", beginning on page 13.

RISK FACTORS

Investing in our common stock involves a high degree of risk. This prospectus does not describe all of those risks. You should consider the risk factors described under the caption "Risk Factors" in the documents incorporated by reference herein, including our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 filed with the SEC on March 13, 2014, and our Quarterly Report on Form 10-Q filed with the SEC on May 8, 2014, together with the other information contained or incorporated by reference in this prospectus before making an investment decision.

Additionally, the CSC Acquisition and the ongoing operations of our NeoStem Oncology, LLC subsidiary subject the Company to additional risks. Our Current Report on Form 8-K filed on May 8, 2014 reporting the closing of the CSC Acquisition contains a discussion of the "Risk Factors" related to the CSC Acquisition and our NeoStem Oncology, LLC subsidiary, which are also incorporated herein by reference into this prospectus.

If any of the these risks occur, our business, financial condition, results of operations and future prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock would likely decline and you may lose all or part of your investment. Share information set forth in these risk factors is as of the dates set forth therein and unless otherwise indicated, does not give effect to the issuance of the Common Stock in connection with this offering upon exercise of the July 2011 Warrants and March 2012 Warrants.

USE OF PROCEEDS

Assuming the exercise of all of the July 2011 Warrants and March 2012 Warrants, we may receive estimated gross proceeds of approximately \$17,126,925. We currently intend to use any proceeds received from the exercise of the warrants for working capital, including research and development of cell therapeutic product candidates, expansion of business units organically or from strategic transactions and other general corporate purposes. As of the date of this prospectus and except as explicitly set forth herein, we cannot specify with certainty all of the particular uses of the proceeds from this offering. Accordingly, we will retain broad discretion over the use of such proceeds. We will incur all costs associated with this registration statement and prospectus, which we anticipate to be approximately \$57,206. There is no assurance that the holders of the warrants will elect to exercise any or all of the warrants.

PLAN OF DISTRIBUTION

We are offering 1,554,250 shares of Common Stock issuable upon the exercise of outstanding warrants previously issued by us in July 2011 and March 2012 as follows:

- 978,750 shares of Common Stock underlying July 2011 Warrants exercisable at \$14.50 per share; and
- 575,500 shares of Common Stock underlying March 2012 Warrants exercisable at \$5.10 per share.

The Common Stock issuable upon the exercise of the warrants will not be offered through underwriters, or brokers or dealers. We will not pay any compensation in connection with the offering of the shares upon exercise of the warrants. Pursuant to the terms of the applicable July 2011 Warrants or March 2012 Warrants, the shares of Common Stock will be distributed to those warrant holders who exercise their warrants by delivering to us, in the case of the March 2012 Warrants, or in care of our warrant agent Continental Stock Transfer & Trust Company, in the case of the July 2011 Warrants, a duly executed exercise form and payment of the respective aggregate exercise price, in accordance with the terms of the respective warrant. We may call the March 2012 Warrants under certain circumstances as described under the caption "Description of Securities - March 2012 Warrants", beginning on page 13.

DESCRIPTION OF SECURITIES

We are offering 1,554,250 shares of Common Stock issuable upon the exercise of outstanding warrants previously issued by us in July 2011 and March 2012 as follows:

- 978,750 shares of Common Stock underlying July 2011 Warrants exercisable at \$14.50 per share; and
- 575,500 shares of Common Stock underlying March 2012 Warrants exercisable at \$5.10 per share.

For a description of the terms of the July 2011 Warrants and the March 2012 Warrants, please see the discussions set forth below under the captions "Description of Securities - July 2011 Warrants" and "Description of Securities - March 2012 Warrants", beginning on pages 10 and 13, respectively.

The following is a summary of all material characteristics of our capital stock as set forth in our certificate of incorporation and bylaws, and our outstanding warrants. The summary does not purport to be complete and is qualified in its entirety by reference to our certificate of incorporation and bylaws and the Class D warrants, the July 2011 Warrants, the March 2012 Warrants, the warrants issued in connection with the PCT Merger and the Amorcyte Merger, the warrants issued in our May-July 2012 Private Placement, the July 2012 New Warrants issued upon exercise of certain of our May-July 2012 Private Placement Warrants, the warrants issued in our August 2012 private placement and the warrants issued in our November 2012 Unit private placement, all of which are incorporated by reference as exhibits to (or as exhibits to documents incorporated by reference into) the registration statement of which this prospectus is a part, and to the provisions of the General Corporation Law of the State of Delaware, as amended.

Common Stock

We are authorized to issue 500,000,000 shares of common stock, par value \$0.001 per share ("Common Stock"). Holders of our Common Stock are entitled to one vote per share in the election of directors and on all other matter on which stockholders are entitled or permitted to vote. Holders of our Common Stock are not entitled to cumulative voting rights. Therefore, holders of a majority of the shares voting for the election of directors can elect all of the directors. Subject to the terms of any outstanding series of preferred stock, the holders of our Common Stock are entitled to dividends in the amounts and at times as may be declared by the Board of Directors out of funds legally available. Upon liquidation or dissolution, holders of our Common Stock are entitled to share ratably in all net assets available for distribution to stockholders after payment of any liquidation preferences to holders of our preferred stock. Holders of our Common Stock have no redemption, conversion or preemptive rights.

As of June 9, 2014, we had 34,061,967 shares of Common Stock issued and outstanding, exclusive of existing convertible preferred stock, options and warrants and the shares to be issued in this offering.

Preferred Stock

We are authorized to issue up to 20,000,000 shares of preferred stock, par value \$0.01 per share, with such designations, rights, and preferences as may be determined from time to time by our Board of Directors. Accordingly, our Board of Directors is empowered, without stockholder approval, to issue preferred stock with dividend, liquidation, conversion, voting, or other rights that could adversely affect the voting power or other rights of the holders of our Common Stock. The issuance of preferred stock could have the effect of restricting dividends on our Common Stock, diluting the voting power of our Common Stock, impairing the liquidation rights of our Common Stock, or delaying or preventing a change in control of our company, all without further action by our stockholders.

As of June 9, 2014, there were 10,000 shares of our Series B Convertible Redeemable Preferred Stock, \$0.01 par value per share ("Series B Preferred Stock"), issued and outstanding.

Series B Preferred Stock

The Series B Preferred Stock ranks pari passu with our Common Stock with respect to the payment of dividends and to the distribution of assets upon liquidation, dissolution or winding up.

So long as any shares of the Series B Preferred Stock are outstanding, no dividend shall be declared or paid or set aside for payment or other distribution declared or made upon our Common Stock or upon any other stock ranking junior to, or on a parity with, the Series B Preferred Stock as to dividends or upon liquidation, dissolution or winding up, unless, in the case of our preferred stock, the same dividend is declared, paid or set aside for payment on all outstanding shares of the Series B Preferred Stock or in the case of our Common Stock, ten times such dividend per share is declared, paid or set aside for payment on each outstanding share of the Series B Preferred Stock.

Except as otherwise provided by law, each share of the Series B Preferred Stock has the same voting rights as ten shares of our Common Stock and the holders of the Series B Preferred Stock and the Common Stock shall vote together as one class on all matters.

The holder of any share of Series B Preferred Stock has the right, at such holder's option, to convert such share into one-hundredth (1/100) of one fully paid and non-assessable share of our Common Stock, subject to adjustment.

In the event of any voluntary or involuntary dissolution, liquidation or winding up of our Company, after any distribution of assets is made to the holders of any other class or series of stock that ranks prior to the Series B Preferred Stock in respect of distributions upon the liquidation of our company, the holder of each share of Series B Preferred Stock then outstanding shall be entitled to be paid out of our assets available for distribution to our stockholders, an amount on a pari passu basis equal to ten times the amount per share distributed to the holders of our Common Stock. After payment of the full amount of the distribution to which they are entitled, the holders of shares of the Series B Preferred Stock will not be entitled to any further participation in any distribution of assets by the corporation.

Shares of Series B Preferred Stock issued and reacquired by us shall have the status of authorized and unissued shares of preferred stock, undesignated as to series, subject to later issuance.

Holders of shares of Series B Preferred Stock are not entitled to any preemptive or subscription rights in respect of any securities of the corporation.

Options

As of June 9, 2014, we had outstanding options to purchase an aggregate of 4,201,624 shares of our Common Stock with exercise prices ranging from \$3.5 to \$100.00 per share, with an approximate weighted average exercise price of \$9.75 per share. The shares of our Common Stock underlying all such options are registered with the SEC.

Warrants

As of June 9, 2014, we had outstanding warrants to purchase an aggregate of 3,778,460 shares of our Common Stock with exercise prices ranging from \$3.60 to \$50.00 per share, with an approximate weighted average exercise price of \$14.33 per share. The shares of Common Stock underlying the vast majority of such warrants have been registered for resale.

Class D Warrants

Each Class D warrant entitles the holder to purchase one share of our Common Stock at an exercise price per share of \$25.00. The exercise price per share of each Class D warrant is subject to adjustment upon the occurrence of certain events as provided in the Class D warrant certificate and summarized below. The Class D warrants may be exercised at any time during their five year term, or eight year term in the case of a Class D warrant to purchase an aggregate of 400,000 shares held by RimAsia Capital Partners, L.P., a Cayman Islands exempted limited partnership and an affiliate of NeoStem ("RimAsia"), unless redeemed. The Class D warrants which have not been previously exercised will expire at the expiration date. A Class D warrant holder will not be deemed to be a holder of the underlying Common Stock for any purpose until the Class D warrant is exercised.

In the event our Common Stock is trading at a per share price equal to or exceeding the redemption threshold of \$35.00, or \$50.00 in the case of the Class D warrant held by RimAsia, for twenty consecutive trading days, we have the option to call the Class D warrants. If the holders of Class D warrants have not exercised the Class D Warrants within 30 days of the written notice to call, we may redeem the Class D warrants at \$0.001 per warrant. We will send the written notice of call by first class mail to Class D warrant holders at their last known addresses appearing on the registration records maintained by the transfer agent of the Class D warrants. No other form of notice by publication or otherwise will be required. If we call any Class D Warrants for redemption, they will be exercisable until close of business on the business day next preceding the specified redemption date.

The exercise price and redemption price of the Class D warrants are subject to adjustment in specified circumstances, including in the event we declare any stock dividend to stockholders or effect any split or reverse split with respect to our Common Stock after the issuance thereof. Therefore, if we effect any stock split or reverse split with respect to our Common Stock, the exercise price in effect immediately prior to such stock split or reverse split will be proportionately reduced or increased, respectively. Any adjustment of the exercise price will also result in an adjustment of the number of shares purchasable upon exercise of a Class D warrant or, if we elect, an adjustment of the number of Class D warrants outstanding. The Class D warrants do not contain provisions protecting against dilution resulting from the sale of additional shares of our Common Stock for less than the exercise price of the Class D warrants or the current market price of our Common Stock.

Until exercised, the Class D warrants will have no voting, dividend or other stockholder rights.

PCT Merger Warrants

In connection with the closing of the PCT Merger on January 19, 2011 (and in addition to the Common Stock consideration for the PCT Merger which we deposited into an escrow account at such time), we issued seven-year warrants to purchase an aggregate 300,000 shares of our Common Stock (collectively, the "PCT Merger Warrants"). The PCT Merger Warrants were delivered in book entry form to the former members of PCT after receipt by us of an appropriate letter of transmittal from the respective former member. The PCT Merger Warrants were divided into three series as follows: (i) warrants to purchase an aggregate 100,000 shares of our Common Stock at an exercise price of \$30.00 per share (the "\$30.00 Warrants"); (ii) warrants to purchase an aggregate 100,000 shares of our Common Stock at an exercise price of \$50.00 per share (the "\$50.00 Warrants"); and (iii) warrants to purchase an aggregate

100,000 shares of our Common Stock at an exercise price of \$70.00 per share, and which provided for vesting only if the \$70.00 Warrant Condition (as defined below) is accomplished within three years of the closing of the PCT Merger (the "\$70.00 Warrants"). The \$7.00 Warrants lapsed without being exercisable because the applicable condition was not satisfied. The material terms and provisions of the still outstanding PCT Merger Warrants are summarized below.

General. Each \$30.00 Warrant and \$50.00 Warrant entitles the holder to purchase one share of Common Stock at an exercise price per share of \$30.00 and \$50.00, respectively. The exercise price per share of each \$30.00 Warrant and \$50.00 Warrant is subject to adjustment upon the occurrence of certain events as provided in the applicable warrant certificate and summarized below. The \$30.00 Warrants and \$50.00 Warrants may be exercised at any time during their seven year term, unless redeemed. The \$30.00 Warrants and \$50.00 Warrants which have not been previously exercised will expire at the expiration date. Holders of the warrants will not be deemed to be a holder of the underlying Common Stock for any purpose until such warrant is exercised. As described below, the Warrants are redeemable in certain circumstances. Transfer of the shares issuable upon exercise of the Warrants had been restricted until the one year anniversary of the closing date of the PCT Merger.

Redemption. In the event Common Stock is trading at a per share price equal to or exceeding the redemption threshold of \$50.00 with respect to the \$30.00 Warrant or \$70.00 with respect to the \$50.00 Warrant for twenty (20) out of thirty (30) consecutive trading days, NeoStem has the option to call the applicable warrant. If the warrant holders have not exercised the warrants within 14 days of the redemption notice, NeoStem may redeem the warrants at \$0.01 per warrant. NeoStem will send the redemption notice by first class mail to warrant holders at their last known addresses appearing on the registration records maintained by the transfer agent of the warrants. No other form of notice by publication or otherwise will be required. If NeoStem calls any warrants for redemption, they will be exercisable until close of business on the business day next preceding the specified redemption date. Notwithstanding the foregoing, NeoStem may not redeem the Warrants unless (i) NeoStem waives the lock-up provisions in the applicable Warrant and (ii) the issuance of the shares underlying the Warrants is covered by an effective registration statement or there is an effective resale registration statement available to the holders of the Warrants with respect to the shares underlying the Warrants.

Adjustments of Exercise Price. The exercise price and redemption price of the warrants are subject to adjustment in specified circumstances, including in the event (i) there is a merger or consolidation and NeoStem is not the surviving corporation; (ii) there is subdivision, combination or reclassification of securities, recapitalization, automatic conversion, or other similar event affecting the number or character of outstanding shares of Common Stock; or (iii) NeoStem declares any stock dividend to stockholders or effects any split or reverse split with respect to the Common Stock after the issuance thereof. The warrants do not contain provisions protecting against dilution resulting from the sale of additional shares of Common Stock for less than the exercise price of the warrants or the current market price of the Common Stock.

No Voting and Dividend Rights. Until exercised, the holders of the warrants will have no voting, dividend or other stockholder rights.

Registration Rights. NeoStem has agreed to use its commercially reasonable efforts to maintain the effectiveness of a registration statement covering the shares underlying the Warrants at any time that both (a) the Warrants are exercisable and (b) the exercise price of the Warrants is less than 105% of the price at which the Common Stock is trading on the NASDAQ Capital Market (or, such other stock exchange on which the Common Stock trades). Under certain limited circumstances, if a registration statement is not effective or a prospectus supplement is not available during the last 20 business days prior to the expiration date of the Warrants, the exercise period of the Warrants would be extended for a period of 20 business days following such effectiveness or availability.

Registration Rights. NeoStem has agreed to use its commercially reasonable efforts to maintain the effectiveness of a registration statement covering the shares underlying the Warrants at any time that both (a) the Warrants are exercisable and (b) the exercise price of the Warrants is less than 105% of the price at which the Common Stock is trading on the NASDAQ Capital Market (or, such other stock exchange on which the Common Stock trades). Under certain limited circumstances, if a registration statement is not effective or a prospectus supplement is not available during the last 20 business days prior to the expiration date of the Warrants, the exercise period of the Warrants would be extended for a period of 20 business days following such effectiveness or availability.

The above description of the PCT Merger Warrants does not purport to be complete and is qualified in its entirety by reference to the Warrant Agreement (with the forms of \$30.00 Warrant, \$50.00 Warrant attached thereto), which was filed as Exhibit 4.1 to our Current Report on Form 8-K dated January 18, 2011 and filed with the SEC on January 24, 2011 in connection with the closing of the PCT Merger.

July 2011 Warrants

Background. On July 22, 2011, we completed an underwritten offering of 1,375,000 shares of our Common Stock and warrants to purchase 1,031,250 shares of our Common Stock (each, a "July 2011 Warrant") (with July 2011 Warrants covering 978,750 shares of our Common Stock remaining outstanding as of June 9, 2014). The material terms and provisions of the July 2011 Warrants are summarized below.

Warrant Agreement. Pursuant to the terms of the underwriting entered into in connection with the July 2011 offering, the July 2011 Warrants may be issued through DTC and evidenced by a "Global Warrant" or may be delivered in physical or other appropriate form. The July 2011 Warrants are governed by a warrant agreement (the "Warrant Agreement"), dated as of July 22, 2011, between us and Continental Stock Transfer & Trust Company, as our agent in respect of the July 2011 Warrants. Book-entry form July 2011 Warrants may be exercised by notifying a broker who is a DTC participant prior to the expiry of such warrants and providing payment of the exercise price for the number of shares of our Common Stock for which such warrants are being exercised. The following description of the terms of the Warrant Agreement is subject to the detailed provisions of such Warrant Agreement, the form of which is filed as Exhibit 2.1 to our Current Report on Form 8-K dated July 19, 2011.

Term; Exercise Price and Exercisability. July 2011 Warrants representing the rights to purchase up to an aggregate of 978,750 shares of our Common Stock remain outstanding as of June 9, 2014. Each warrant has an exercise price of \$14.50 per share, was immediately exercisable upon issuance, and will expire on July 18, 2016. The number of warrant shares that may be acquired by any holder upon any exercise of the warrant will be limited to the extent necessary to insure that, following such exercise (or other issuance), the total number of shares of our Common Stock then beneficially owned by such holder and its affiliates and any other persons whose beneficial ownership of our Common Stock would be aggregated with the holder's for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, does not exceed 4.99% of the total number of issued and outstanding shares of our Common Stock (including for such purpose the shares of our Common Stock issuable upon such exercise), or beneficial ownership limitation. The holder may elect to change this beneficial ownership limitation from 4.99% to 9.99% of the total number of issued and outstanding shares of our Common Stock (including for such purpose the shares of our Common Stock issuable upon such exercise) upon providing us with not less than 61 days' prior written notice.

Manner of Exercise. Holders of the July 2011 Warrants may exercise their July 2011 Warrants to purchase shares of our Common Stock on or before the expiration date by delivering (i) notice of exercise, appropriately completed and duly signed, and (ii) if such holder is not utilizing the cashless exercise

provisions with respect to the warrants, payment of the exercise price by wire transfer or cashier's check drawn on a United States bank, for the number of shares with respect to which the warrant is being exercised. July 2011 Warrants may be exercised in whole or in part, but only for full shares of our Common Stock. We provide certain buy-in rights to a holder if we fail to deliver the shares of our Common Stock underlying the July 2011 Warrants by the second trading day after the date on which delivery of the stock certificate is required by the July 2011 Warrant. The buy-in rights apply if after the second trading day on which delivery of the stock is required by the July 2011 Warrant, the holder purchases (in an open market transaction or otherwise) shares of our Common Stock to deliver in satisfaction of a sale by the holder of the warrant shares that the holder anticipated receiving from us upon exercise of the July 2011 Warrants. In such event, we will:

- pay in cash to the holder the amount equal to the excess (if any) of the buy-in price (including brokerage commissions, if any) over the product of (A) the number of warrant shares that we were required to deliver to the holder in connection with the exercise at issue, times (B) the price at which the sell order giving rise to holder's purchase obligation was executed; and
- at the election of holder, either (A) reinstate the portion of the July 2011 Warrants as to such number of shares of our Common Stock for which such exercise was not honored, or (B) deliver to the holder such number of shares of our Common Stock that would have been exercised had we timely complied with our exercise and delivery obligations.

If the holder of a July 2011 Warrants desires to exercise its warrant and sell the shares issuable upon exercise of its warrant and there is no effective registration statement registering, or no current prospectus available for, the issuance or resale of the shares of our Common Stock underlying such warrants, in lieu of exercising its warrant by payment of a wire transfer or cashier's check, the holder may elect to receive shares equal to the value of such holder's warrant by surrender of the warrant to us, together with a properly endorsed notice of exercise. The number of shares to be issued would be determined by a formula based on the total number of shares with respect to which the warrant is being exercised, the volume weighted average price for the shares of our Common Stock on the trading day immediately prior to the date of exercise and the applicable exercise price of the July 2011 Warrants.

The shares of our Common Stock issuable on exercise of the July 2011 Warrants will be, when issued and paid for in accordance with the July 2011 Warrants, duly authorized, validly issued and fully paid and non-assessable. We have authorized and reserved at least that number of shares of our Common Stock equal to the number of shares of our Common Stock issuable upon exercise of all outstanding July 2011 Warrants.

Fundamental Transaction. If, at any time while the July 2011 Warrants are outstanding, (1) we consolidate or merge with or into another corporation, (2) we sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our assets, (3) any purchase offer, tender offer or exchange offer (whether by us or another individual or entity) is completed pursuant to which holders of our Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of our outstanding Common Stock or (4) we effect any reclassification or recapitalization of our Common Stock or any compulsory share exchange pursuant to which our Common Stock is converted into or exchanged for other securities, cash or property (or the occurrence of any analogous proceeding) affecting us (each, a "Fundamental Transaction"), then upon any subsequent exercise of the July 2011 Warrants, the holders thereof will have the right to receive the same amount and kind of securities, as they would have been entitled to receive upon the occurrence of such Fundamental Transaction if they had been, immediately prior to such Fundamental Transaction, the holder of the number of warrant shares then issuable upon exercise of the July 2011 Warrant, and any additional consideration payable as part of the Fundamental Transaction; provided, however, that in the event of a change of control transaction (as defined in the warrant) other than one in which the successor entity is a publicly traded corporation whose stock is listed or quoted for trading on the New York Stock Exchange, NASDAQ markets or the NYSE MKT and results in the July 2011 Warrants being exercisable for publicly traded common stock of such successor entity, at the request of a holder of a warrant delivered before the 90th calendar day after consummation of such change of control transaction, we (or the successor entity) will purchase the warrant by paying to the holder, cash in an am

Certain Adjustments. The exercise price and the number of shares of our Common Stock purchasable upon the exercise of the July 2011 Warrants are subject to adjustment upon the occurrence of specific events, including stock dividends, stock splits, combinations and reclassifications of our Common Stock. Additionally, the exercise price of the July 2011 Warrants is subject to certain adjustments if we (i) issue rights, options or warrants to all holders of our Common Stock (and not to the warrant holder) entitling them to subscribe for or purchase shares of our Common Stock at a price per share less than the volume weighted average price (the "VWAP") of our Common Stock on the record date for the determination of stockholders entitled to receive such rights, options or warrants, or (ii) distribute to all holders of our Common Stock (and not to the warrant holder) evidences of our indebtedness or assets (including cash and cash dividends) or rights or warrants to purchase any security.

Delivery of Certificates. Upon the holder's exercise of a July 2011 Warrants, we will promptly, but in no event later than three business days after the exercise date (referred to as the "warrant share delivery date"), issue and deliver, or cause to be issued and delivered, a certificate for the shares of our Common Stock issuable upon exercise of the July 2011 Warrant. In addition, we will, if the holder provides the necessary information to us, issue and deliver the shares electronically through The Depository Trust Corporation through its Deposit Withdrawal Agent Commission System (DWAC) or another established clearing corporation performing similar functions.

Notice of Corporate Action. We will provide prior notice to holders of the July 2011 Warrants in advance of certain record or effective dates (as specified below) in connection with the following corporate events, to provide the holders of the July 2011 Warrants with the opportunity to exercise their warrants and hold our Common Stock:

- if we declare a dividend (or any other distribution in whatever form) on our Common Stock;
- if we declare a special nonrecurring cash dividend on or a redemption of our Common Stock;
- if we authorize the granting to all holders of our Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights;
- if the approval of any of our stockholders shall be required in connection with any reclassification of our Common Stock, any consolidation or merger to which we are a party, any sale or transfer of all or substantially all of our assets, or any compulsory share exchange whereby our Common Stock is converted into other securities, cash or property; or
- if we authorize the voluntary or involuntary liquidation or winding up of the affairs of our Company, then, in each case, we will mail to the holders of the July 2011 Warrants a notice stating:

- the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of our Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined, or
- the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of record of our Common Stock will be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange.

Subject to applicable law, the holder will be provided a reasonable opportunity (which shall be not less than eight (8) calendar days' notice) to exercise the July 2011 Warrants prior to the effective date of the event triggering such notice. No holders of the July 2011 Warrants will possess any rights as a stockholder under those warrants until the holder exercises those warrants.

Transferability. The July 2011 Warrants may be transferred independent of the Common Stock they were issued with, on a form of assignment, subject to all applicable laws.

Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of the July 2011 Warrants. As to any fraction of a share which the holder would otherwise be entitled to purchase upon such exercise, we will, at our election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price or round up to the next whole share.

The description of the July 2011 Warrants contained herein does not purport to be complete and is qualified in its entirety by reference to the Warrant Agreement and the Form of Warrant Certificate, which are filed as Exhibit 4.1 to our Current Report on Form 8-K dated July 19, 2011.

Series AMO Warrants

General. Upon closing the Amorcyte Merger on October 17, 2011, as a portion of the merger consideration we issued Series AMO Warrants to purchase an aggregate of 188,101 shares of our Common Stock (the "Series AMO Warrants"). The Series AMO Warrants are evidenced by a "Global Warrant" and were delivered in book entry form to the former stockholders of Amorcyte. Each Series AMO Warrant entitles the holder to purchase one share of our Common Stock at an exercise price of \$14.66 per share. The exercise price per share of each Warrant will be subject to adjustment upon the occurrence of certain events as provided in the form of global warrant certificate and summarized below. The Series AMO Warrants may be exercised at any time during their seven year term, unless redeemed; provided, however, that the transfer of any shares of our Common Stock issuable upon exercise of the Series AMO Warrants was restricted until the one year anniversary of the closing date of the Amorcyte Merger. The Series AMO Warrants which have not been previously exercised will expire at the expiration date. A Series AMO Warrant holder will not be deemed to be a holder of the underlying Common Stock for any purpose until the Series AMO Warrant is exercised.

Redemption. In the event our Common Stock is trading at a per share price equal to or exceeding the redemption threshold of \$34.70 per share for twenty (20) out of thirty (30) consecutive trading days, we have the option to call the Series AMO Warrants. If the holders of Series AMO Warrants have not exercised their warrants within 14 days of the redemption notice, we may redeem the Series AMO Warrants at \$0.001 per warrant. We will send the redemption notice by first class mail to Series AMO Warrant holders at their last known addresses appearing on the registration records maintained by the transfer agent of the Series AMO Warrants. No other form of notice by publication or otherwise will be required. If we call any Series AMO Warrants for redemption, they will be exercisable until close of business on the business day next preceding the specified redemption date.

Adjustments of Exercise Price. The exercise price and redemption price of the Series AMO Warrants is subject to adjustment in specified circumstances, including in the event (i) there is a merger or consolidation and we are not the surviving corporation; (ii) there is subdivision, combination or reclassification of securities, recapitalization, automatic conversion, or other similar event affecting the number or character of outstanding shares of our Common Stock; or (iii) we declare any stock dividend to stockholders or effect any split or reverse split with respect to our Common Stock. The Series AMO Warrants do not contain provisions protecting against dilution resulting from the sale of additional shares of our Common Stock for less than the exercise price of the Series AMO Warrants or the current market price of our Common Stock.

No Voting and Dividend Rights. Until exercised, the Series AMO Warrants have no voting, dividend or other stockholder rights.

Registration Rights. We shall use commercially reasonable efforts to maintain the effectiveness of the Registration Statement on Form S-4 which covers the shares of our Common Stock underlying the Series AMO Warrants or file and maintain the effectiveness of another registration statement covering the shares of our Common Stock issuable upon exercise of the Series AMO Warrants at any time that both (a) the Series AMO Warrants are exercisable and (b) the exercise price of the Series AMO Warrants is less than 105% of the price at which our Common Stock is trading on the NASDAQ Capital Market (or if our Common Stock is no longer trading on the NASDAQ Capital Market, such other stock exchange on which such shares trade). In no event will any holder of a Series AMO Warrant be entitled to receive a "net cash settlement" in lieu of physical settlement in shares of our Common Stock regardless of whether we comply with our obligation described in the preceding sentence.

The description of the Series AMO Warrants contained herein does not purport to be complete and is qualified in its entirety by reference to the Warrant Agreement and the Form of Global Series AMO Warrant attached thereto, which is filed as Exhibit 4.1 to our Current Report on Form 8-K dated October 17, 2011.

March 2012 Warrants (Warrants Issued in Our March 2012 Underwritten Offering)

In connection with a public offering of our Common Stock and certain warrants which closed as to 15,000,000 units on March 30, 2012 (and which closed with respect to an exercise of the underwriter's over-allotment option to the extent of an additional 2,000,000 units on April 4, 2012) (the "March 2012 Underwritten Offering"), we issued warrants to purchase up to an aggregate of 1,700,000 shares of our Common Stock. The material terms and provisions of the warrants issued in connection with our March 2012 Underwritten Offering are summarized below.

Term; Exercise Price and Exercisability. The warrants issued in our March 2012 Underwritten Offering provided for the purchase of up to 1,700,000 shares of our Common Stock in the aggregate (with 575,500 of such warrants remaining outstanding as of June 9, 2014). Each warrant has an exercise price of \$5.10 per share, became exercisable in April 2012 (the Company having waived the six-month waiting period to exercise the warrants), and will expire five years from the date of issuance. The number of warrant shares that may be acquired by any holder upon any exercise of the warrant will be limited to the extent necessary to insure that, following such exercise (or other issuance), the total number of shares of Common Stock then beneficially owned by such holder and its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder's for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, does not exceed 4.99% of the total number of issued and outstanding shares of Common Stock

(including for such purpose the shares of Common Stock issuable upon such exercise), or beneficial ownership limitation. The holder may elect to change this beneficial ownership limitation from 4.99% to 9.99% of the total number of issued and outstanding shares of Common Stock (including for such purpose the shares of Common Stock issuable upon such exercise) upon providing us with not less than 61 days' prior written notice.

Manner of Exercise. Holders of the warrants may exercise their warrants to purchase shares of our Common Stock at any time on or after the Initial Exercise Date and on or before the expiration date by delivering (i) notice of exercise, appropriately completed and duly signed, and (ii) payment of the exercise price by wire transfer or cashier's check drawn on a United States bank, for the number of shares with respect to which the warrant is being exercised. Warrants may be exercised in whole or in part, but only for full shares of Common Stock. We provide certain buy-in rights to a holder if we fail to deliver the shares of Common Stock underlying the warrants by the date on which delivery of the warrant shares is required by the warrant. The buy-in rights apply if after the day on which delivery of the warrant shares is required by the warrant, the holder purchases (in an open market transaction or otherwise) shares of our Common Stock to deliver in satisfaction of a sale by the holder of the warrant shares that the holder anticipated receiving from us upon exercise of the warrant. In such event, we will:

- pay in cash to the holder the amount equal to the excess (if any) of the buy-in price (including brokerage commissions, if any) over the product of (A) the number of warrant shares that we were required to deliver to the holder in connection with the exercise at issue, times (B) the price at which the sell order giving rise to holder's purchase obligation was executed; and
- at the election of holder, either (A) reinstate the portion of the warrant as to such number of shares of Common Stock for which such exercise was not honored, or (B) deliver to the holder such number of shares of Common Stock that would have been issued had we timely complied with our exercise and delivery obligations.

If the holder of a warrant desires to exercise its warrant and there is no effective registration statement registering, or no current prospectus available for, the issuance of the shares of Common Stock underlying the warrants, in lieu of exercising its warrant by payment of a wire transfer or cashier's check, the holder may elect to receive shares equal to the value of such holder's warrant by surrender of the warrant to us, together with a properly endorsed notice of exercise. The number of shares to be issued would be determined by a formula based on the total number of shares with respect to which the warrant is being exercised, the volume weighted average price for the shares of our Common Stock on the trading day immediately prior to the date of exercise and the applicable exercise price of the warrants.

The shares of Common Stock issuable on exercise of the warrants will be, when issued and paid for in accordance with the warrants, duly authorized, validly issued and fully paid and non-assessable. We will authorize and reserve at least that number of shares of Common Stock equal to the number of shares of Common Stock issuable upon exercise of all outstanding warrants.

Call Provision. Subject to certain exceptions, while the warrants are outstanding and following the Initial Exercise Date, if the volume weighted average price of a share of our Common Stock for each of 10 consecutive Trading Days (the "Measurement Period," which 10 consecutive Trading Day period shall not have commenced until after the Initial Exercise Date) exceeds \$15.30 (subject to adjustment), then we may, within 1 Trading Day of the end of such Measurement Period, upon notice, call for cancellation of all or any portion of the warrants (a "Call") for consideration equal to \$0.01 per Share. Our right to Call the warrants shall be exercised ratably among the holders based on each holder's initial purchase of warrants from us.

Fundamental Transaction. If, at any time while the warrants are outstanding, (1) we consolidate or merge with or into another corporation, (2) we sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our assets for consideration which is distributed to the holders of all our Common Stock, (3) any purchase offer, tender offer or exchange offer (whether by us or another individual or entity) is completed pursuant to which holders of our Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of our outstanding Common Stock, (4) we effect any reclassification or recapitalization of our Common Stock or any compulsory share exchange pursuant to which our Common Stock is converted into or exchanged for other securities, cash or property or (5) we consummate a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another individual, entity or group whereby such other individual, entity or group acquires more than 50% of our outstanding stock (or the occurrence of any analogous proceeding) affecting our company (each, a "Fundamental Transaction"), then upon any subsequent exercise of the warrants, the holders thereof will have the right to receive the same amount and kind of securities, as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of warrant shares then issuable upon exercise of the warrant, and any additional consideration payable as part of the Fundamental Transaction; provided, however, that in the event of a Fundamental Transaction that is (1) an all cash transaction, (2) a "Rule 13e-3 transaction" as defined in Rule 13e-3 under the Exchange Act, or (3) a Fundamental Transaction (other than as described solely in clause (5) above) involving a person or entity not traded on a national securities exchange, including, but not limited to, the New York Stock Exchange, the NYSE MKT, the Nasdaq Global Select Market, the Nasdaq Global Market, or the Nasdaq Capital Market, we or any Successor Entity (as defined below) shall, at the holder's option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction, purchase the warrant from the holder by paying to the holder an amount of cash equal to the Black Scholes Value (as defined in the warrant) of the remaining unexercised portion of the warrant on the date of the consummation of such Fundamental Transaction, and we shall cause any successor entity in a Fundamental Transaction in which we are not the survivor (the "Successor Entity") to assume in writing all of our obligations under the warrant prior to such Fundamental Transaction and shall, at the option of the holder, deliver to the holder in exchange for the warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the warrants which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of the warrants (without regard to any limitations on the exercise of the warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price under the warrant to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of the warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the holder.

Certain Adjustments. The exercise price and the number of shares of Common Stock purchasable upon the exercise of the warrants are subject to adjustment upon the occurrence of specific events, including stock dividends, stock splits, combinations and reclassifications of our Common Stock. Additionally, the exercise price of the warrants issued to the investors is subject to certain adjustments if we (i) issue rights, options or warrants to all holders of Common Stock (and not to the warrant holder) entitling them to subscribe for or purchase shares of Common Stock at a price per share less than the volume weighted average price (the "VWAP") of the Common Stock on the record date for the determination of stockholders entitled to receive such rights, options or warrants, or (ii) distribute to all holders of Common Stock (and not to the warrant holder) evidences of our indebtedness or assets (including cash and cash dividends) or rights or warrants to purchase any security.

Delivery of Warrant Shares. Upon the holder's exercise of a warrant, we will promptly, but in no event later than three business days after the exercise date (referred to as the "exercise share delivery date"), issue and deliver, or cause to be issued and delivered, the shares of Common Stock issuable upon exercise of the warrant. If the holder provides the necessary information to us, we will issue and deliver the shares electronically through The Depository Trust Corporation through its Deposit Withdrawal Agent Commission System (DWAC) or another established clearing corporation performing similar functions.

Notice of Corporate Action. We will provide prior notice to holders of the warrants in advance of certain record or effective dates (as specified below) in connection with the following corporate events, to provide the holders of the warrants with the opportunity to exercise their warrants and hold Common Stock:

- if we declare a dividend (or any other distribution in whatever form) on our Common Stock;
- if we declare a special nonrecurring cash dividend on or a redemption of Common Stock;
- if we authorize the granting to all holders of our Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights;
- if the approval of any of our stockholders shall be required in connection with any reclassification of our Common Stock, any consolidation or merger to which our Company is a party, any sale or transfer of all or substantially all of our assets, or any compulsory share exchange whereby our Common Stock is converted into other securities, cash or property; or
- if we authorize the voluntary or involuntary liquidation or winding up of the affairs of the Company, then, in each case, we will mail to the holders of the warrants a notice stating:
- the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of our Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined, or
- the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of record of our Common Stock will be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange.

Subject to applicable law, the holder will be provided a reasonable opportunity to exercise the warrant prior to the effective date of the event triggering such notice. No holders of the warrants will possess any rights as a stockholder under those warrants until the holder exercises those warrants.

Transferability. The warrants may be transferred independent of the Common Stock they were issued with, on a form of assignment, subject to all applicable laws.

Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of the warrants. As to any fraction of a share which the holder would otherwise be entitled to purchase upon such exercise, we will, at our election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price or round up to the next whole share.

Exchange Listing. We do not plan on making an application to list the warrants on the NASDAQ Capital Market or any other national securities exchange or recognized trading system. The Common Stock underlying the warrants is listed on the NASDAQ Capital Market.

The above description of the warrants issued in our March 2012 Underwritten Offering does not purport to be complete and is qualified in its entirety by reference to the form of warrant, which was filed as Exhibit 4.1 to our Current Report on Form 8-K filed with the SEC on March 29, 2012 in connection with such offering.

Warrants Issued in Connection With Our May-July 2012 Private Placement

May-July 2012 Private Placement Warrants. In closings occurring from May through August 2012, we issued in a private placement an aggregate of 412,633 units, with each unit consisting of (i) one share of our Common Stock and (ii) a warrant to purchase one share of our Common Stock at an exercise price of \$5.10 per share, exercisable during the five-year period following the date of issuance (our board of directors having waived the six month waiting period provided for in the form of warrant) (each, a "May-July 2012 Private Placement Warrant"). As of June 9, 2014, May-July 2012 Private Placement Warrants covering an aggregate of 25,000 shares of our Common Stock remained outstanding. In the event the average closing price of our Common Stock equals or exceeds \$10.00 per share for 20 out of 30 consecutive trading days, we have the option to call the May-July 2012 Private Placement Warrants by mailing a notice to the registered holders thereof at least 10 business days prior to the date fixed by us for redemption (the "Redemption Date"). Any May-July 2012 Private Placement Warrants not exercised by 5:00 p.m. on the business day immediately preceding the Redemption Date shall terminate, with the holder of such terminated warrants having no further rights except to receive, upon surrender of the warrants, the redemption price of \$.001 per warrant.

July 2012 New Warrants. In July 2012, an aggregate of 280,814 of the May-July 2012 Private Placement Warrants were exercised, and in consideration for such exercises, we issued to each exercising holder a new five-year warrant (each, a "July 2012 New Warrant") to purchase the identical number of shares of our Common Stock as had been covered by such portion of the old May-July 2012 Private Placement Warrant as had been exercised. Each July 2012 New Warrant is exercisable for five years and is subject to substantially the same terms as the old May-July 2012 Private Placement Warrants that were exercised, except that the per share exercise price of each July 2012 New Warrant is between \$6.60 and \$6.90, the closing price of our Common Stock on the date the old May-July 2012 Private Placement Warrant was exercised. We have issued July 2012 New Warrants covering an aggregate of 280,814 shares of our Common Stock.

Warrants Issued in Connection With Our August 2012 Private Placement

In an August 2012 private placement, we issued an aggregate of 417,392 units, with each Unit consisting of (a) one share of common stock and (b) a warrant (each, an "August 2012 Private Placement Warrant") to purchase one share of Common Stock at exercise prices ranging from \$5.10 to \$7.40, expiring five years from the date of issuance and are exercisable immediately upon issuance. In the event the average closing price of our Common Stock equals or exceeds, ranging from \$10.00 to \$15.00 per share for 20 out of 30 consecutive trading days, we have the option to redeem these warrants by mailing a notice to the registered holders thereof at least 10 business days prior to the date fixed by us for redemption (the "Redemption Date"). Any such warrants

not exercised by 5:00 p.m. on the business day immediately preceding the Redemption Date shall terminate, with the holder of such terminated warrants having no further rights except to receive, upon surrender of the warrants, the redemption price of \$.001 per warrant.

Warrants Issued in Connection With Our November 2012 Unit Private Placement

In a November 2012 private placement, we issued an aggregate of 833,333 shares of Common Stock and warrants to purchase an aggregate of 62,500 shares of Common Stock. The warrants have an exercise price to \$7.50 per share, become exercisable six months after issuance and expire five years from the date of issuance. In the event the average closing price of our Common Stock equals or exceeds \$12.50 per share for 20 out of 30 consecutive trading days, we have the option to redeem these warrants by mailing a notice to the registered holders thereof at least 10 business days prior to the date fixed by us for redemption (the "Redemption Date"). Any such warrants not exercised by 5:00 p.m. on the business day immediately preceding the Redemption Date shall terminate, with the holder of such terminated warrants having no further rights except to receive, upon surrender of the warrants, the redemption price of \$.001 per warrant.

Anti-Takeover Effects of Certain Provisions of Delaware Law and Our Certificate of Incorporation and Bylaws

Our Amended and Restated Certificate of Incorporation and bylaws contain some provisions that could make our acquisition by means of a tender or exchange offer, a proxy contest or otherwise more difficult. These provisions are summarized below.

Classified Board of Directors. Pursuant to Article ELEVENTH of our Amended and Restated Certificate of Incorporation, the directors constituting our Board of Directors are classified, with respect to the time for which they severally hold office, into three classes as nearly equal in number as possible. In connection with implementing our classified Board, at our 2013 annual meeting of stockholders, our stockholders elected directors to three separate classes, with the initial terms of such classes expiring in 2014, 2015 and 2016, respectively. At each annual meeting of stockholders commencing with the election in 2014, the successors of the class of directors whose term expires at that meeting will be elected to hold office for a term expiring at the annual meeting of stockholders held in the third year following the year of their election. Pursuant to the Delaware General Corporation Law, if a board of directors is classified (as is our Board of Directors), unless the certificate of incorporation otherwise provides, members of the board of directors may be removed by the stockholders before the expiration of their respective terms only for cause.

Special Meetings. Our bylaws provide that special meetings of our stockholders may, unless otherwise prescribed by law, be called by our Chairman of the Board (if any), our Board of Directors or our Chief Executive Officer and shall be held at such place, on such date and at such time as shall be fixed by our Board of Directors or the person calling the meeting. Business transacted at any special meeting shall be limited to matters relating to the purpose or purposes stated in the notice of the meeting.

Undesignated Preferred Stock. The ability to authorize undesignated preferred stock makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us. The ability to issue preferred stock may have the effect of deferring hostile takeovers or delaying changes in control or management of our company.

Delaware Anti-Takeover Statute. We are subject to the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; and
- on or subsequent to the date of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, owned 15% or more of a corporation's outstanding voting securities. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our Board of Directors does not approve in advance. We also anticipate that Section 203 may discourage attempted acquisitions that might result in a premium over the market price for the shares of our Common Stock held by stockholders.

The provisions of Delaware law, our Amended and Restated Certificate of Incorporation and our bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our Common Stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Potential Effects of Authorized but Unissued Stock

We have shares of Common Stock and preferred stock available for future issuance without stockholder approval. We may utilize these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, to facilitate corporate acquisitions or payment as a dividend on the capital stock.

The existence of unissued and unreserved Common Stock and preferred stock may enable our Board of Directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third-party attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, the Board of Directors has the discretion to determine designations, rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences of each series of preferred stock, all to the fullest extent permissible under the Delaware General Corporation Law and subject to any limitations set forth in our certificate of incorporation. The purpose of authorizing the Board of Directors to issue preferred stock and to

determine the rights and preferences applicable to such preferred stock is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing desirable flexibility in connection with possible financings, acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from acquiring, a majority of our outstanding voting stock.

Limitations of Director Liability and Indemnification of Directors, Officers and Employees

Section 145 of the Delaware General Corporation Law, permits indemnification of directors, officers, agents and controlling persons of a corporation under certain conditions and subject to certain limitations. Section 145 empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was a director, officer or agent of the corporation or another enterprise if serving at the request of the corporation. Depending on the character of the proceeding, a corporation may indemnify against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding if the person indemnified acted in good faith and in a manner he or she reasonably believed to be in or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. In the case of an action by or in the right of the corporation, no indemnification may be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine that despite the adjudication of liability such person is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper. Section 145 further provides that to the extent a present or former director or officer of a corporation has been successful in the defense of any action, suit or proceeding referred to above or in the defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therew

Indemnification Agreements

We have entered into indemnification agreements with each of our Chief Executive Officer, Chief Financial Officer, General Counsel, certain other employees and each of our directors pursuant to which we have agreed to indemnify such party to the full extent permitted by law, subject to certain exceptions, if such party becomes subject to an action because such party is our director, officer, employee, agent or fiduciary.

Transfer Agent

The transfer agent and registrar for our Common Stock is Continental Stock Transfer & Trust Company. Its address is 17 Battery Place, New York, New York, 10004 and its telephone number is (212) 509-4000.

NASDAQ Capital Market Listing

Our Common Stock is traded on the NASDAQ Capital Market under the symbol "NBS."

LEGAL MATTERS

Lowenstein Sandler LLP, Roseland, New Jersey will pass upon the validity of the shares of Common Stock offered by this prospectus. Lowenstein Sandler LLP owns 30,100 shares of the Common Stock of the Company as of the date of this prospectus.

EXPERTS

The audited financial statements and management's assessment of the effectiveness of internal control over financial reporting incorporated by reference in this prospectus and elsewhere in the registration statement have been so incorporated by reference in reliance upon the reports of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

The consolidated financial statements for CSC and its subsidiaries as of and for the years ended December 31, 2013 and 2012, incorporated in this prospectus and elsewhere in the registration statement of which this prospectus forms a part, by reference from the Company's Current Report on Form 8-K filed with the SEC on May 8, 2014, have been audited by McGladrey LLP, an independent auditor, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information contained in documents that we file with them, which means that we can disclose important information to you by referring to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus modifies or supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus, and information that we file later with the SEC also will automatically update and supersede this information.

We incorporated by reference into this prospectus, the documents listed below and any documents that we file in the future with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, after the date of this prospectus and before the completion of the offering:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, filed with the SEC on March 13, 2014;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2014, filed with the SEC on May 8, 2014;
- Our Current Reports on Form 8-K filed with the SEC on June 3, 2014, May 8, 2014 and April 14, 2014 (excluding any information deemed furnished pursuant to Item 2.02 or Item 7.01 of such Current Report on Form 8-K); and
- The description of our common stock set forth in our Registration Statement on Form 8-A, filed with the SEC on August 2, 2013 (including any amendment or report filed with the SEC for the purpose of updating such description).

To the extent that any statement in this prospectus is inconsistent with any statement that is incorporated by reference and that was made on or before the date of this prospectus, the statement in this prospectus shall supersede such incorporated statement. The incorporated statement shall not be deemed, except as modified or superseded, to constitute a part of this prospectus or the registration statement. Statements contained in this prospectus as to the contents of any contract or other document are not

necessarily complete and, in each instance, we refer you to the copy of each contract or document filed as an exhibit to the registration statement.

We will furnish without charge to you, upon written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to:

NeoStem, Inc.
420 Lexington Avenue, Suite 350
New York, New York 10170
(212) 584-4180
Attention: Catherine M. Vaczy, Esq., General Counsel

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this document.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information requirements of the Exchange Act and we therefore file periodic reports, proxy statements and other information with the SEC relating to our business, financial statements and other matters. The reports, proxy statements and other information we file may be inspected and copied at prescribed rates at the SEC's Public Reference Room located at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the SEC's Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site that contains reports, proxy and information statements and other information regarding issuers like us that file electronically with the SEC. The address of the SEC's Internet site is www.sec.gov. You may also view our filings with the SEC on our Internet site at www.neostem.com.

This prospectus constitutes part of a registration statement on Form S-3 filed under the Securities Act with respect to the securities. As permitted by the SEC's rules, this prospectus omits some of the information, exhibits and undertakings included in the registration statement. You may read and copy the information omitted from this prospectus but contained in the registration statement, as well as the periodic reports and other information we file with the SEC, at the public reference facilities maintained by the SEC in Washington, D.C.

Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete, and in each instance we refer you to the copy of the contract or document filed or incorporated by reference as an exhibit to the registration statement or as an exhibit to our Exchange Act filings, each such statement being qualified in all respects by such reference.

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the registration of the securities being registered hereby, all of which will be borne by us. All amounts shown are estimates.

SEC registration fee	\$ 2,206 *
Legal fees and expenses	\$ 25,000
Accounting fees and expenses	\$ 30,000
	\$ 57,206

^{*}Previously paid. See the Explanatory Note following the cover page of this Registration Statement.

Item 15. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Under the General Corporation Law of the State of Delaware (the "DGCL"), a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), by reason of the fact that he or she is or was our director, officer, employee or agent, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

In addition, the DGCL also provides that we also may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in our right to procure a judgment in our favor by reason of the fact that he or she is or was our director, officer, employee or agent, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by him or her in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests. However, in such an action by or on our behalf, no indemnification may be made in respect of any claim, issue or matter as to which the person is adjudged liable to us unless and only to the extent that the court determines that, despite the adjudication of liability but in view of all the circumstances, the person is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper.

Our certificate of incorporation is consistent with the DGCL. Each of our directors, officers, employees and agents will be indemnified to the extent permitted by the DGCL. We also maintain insurance on behalf of our directors and officers against liabilities asserted against such persons and incurred by such persons in such capacities, whether or not we would have the power to indemnify such persons under the DGCL.

We have entered into indemnification agreements with our Chief Executive Officer, Chief Financial Officer, General Counsel, certain other employees and each of our directors pursuant to which we have agreed to indemnify such party to the full extent permitted by law, subject to certain exceptions, if such party becomes subject to an action because such party is a our director, officer, employee, agent or fiduciary.

Item 16. Exhibits.

Exhibit	Description
2.1	Agreement and Plan of Merger, dated as of April 11, 2014, by and among NeoStem, Inc., California Stem Cell, Inc., NBS Acquisition Company I, Inc., NBS Acquisition Company II, LLC, and Jason Livingston, solely in his capacity as CSC stockholder representative (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K dated April 11, 2014).
3.1	Amended and Restated Certificate of Incorporation of NeoStem, Inc., filed with the Secretary of State of the State of Delaware on October 3, 2013 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K dated October 3, 2013).
3.2	Amended and Restated By-Laws dated August 31, 2006 (incorporated by reference to Exhibit 3.1 to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2010 as filed with the SEC on April 6, 2011).
4.1	Specimen Certificate for Common Stock (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-3, File No. 333-145988, filed with the SEC on September 11, 2007).
4.2	Warrant Agreement, dated as of July 22, 2011, between NeoStem, Inc. and Continental Stock Transfer & Trust Company, with the form of July 2011 Warrant attached thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011 as filed with the SEC on November 10, 2011).
4.3	Form of March 2011 Warrant (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K dated March 29, 2012).
5.1	Opinion of Lowenstein Sandler LLP†
23.1	Consent of Grant Thornton LLP†
23.2	Consent of McGladrey LLP†
23.3	Consent of Lowenstein Sandler LLP (contained in Exhibit 5.1)†
24.1	Power of Attorney (included on the signature page to this Registration Statement)†

[†] Filed herewith.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

provided, however, that paragraphs (i), (ii) and (iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
 - (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (i) If the registrant is relying on Rule 430B,
- (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
- (B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or
- (ii) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.
- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the registrant undertakes that in a primary offering of securities of the registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
 - (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
 - (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about an undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

- (6) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (7) To deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Securities Exchange Act of 1934; and, where interim financial information required to be presented by Article 3 of Regulation S-X are not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.
- (8) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New York, State of New York, on June 12, 2014.

NEOSTEM, INC.

By: /s/ Robin L. Smith, M.D.

Name: Robin L. Smith, M.D. Title: Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Robin L. Smith and Catherine M. Vaczy, and either of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) and supplements to this registration statement (or any other registration statement for the same offering that is effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended) and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ Robin L. Smith, M.D.	Director, Chief Executive Officer and	_
Robin L. Smith, M.D.	Chairman of the Board (Principal Executive Officer)	June 12, 2014
/s/Robert Dickey IV		
Robert Dickey IV	Chief Financial Officer (Principal Financial Officer)	June 12, 2014
/s/ Joseph Talamo	Vice President, Corporate Controller and Chief	
Joseph Talamo	Accounting Officer (Principal Accounting Officer)	June 12, 2014
/s/ Richard Berman		
Richard Berman	Director	June 12, 2014
/s/ Steven S. Myers		
Steven S. Myers	Director	June 12, 2014
/s/ Drew Bernstein		
Drew Bernstein	Director	June 12, 2014
/s/ Eric Wei		
Eric Wei	Director	June 12, 2014
/s/ Andrew L. Pecora, M.D.		
Andrew L. Pecora, M.D.	Director	June 12, 2014
/s/ Martyn D. Greenacre		
Martyn D. Greenacre	Director	June 12, 2014

June 12, 2014

NeoStem, Inc. 420 Lexington Avenue, Suite 350 New York, New York 10170

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have served as special counsel in connection with the preparation of your Registration Statement on Form S-3 (the "Registration Statement") filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Act"), covering 1,554,250 shares of common stock, par value \$0.001 per share (the "Shares"), of NeoStem, Inc., a Delaware corporation (the "Company"), that are issuable upon exercise of two classes of warrants previously issued by the Company in July 2011 and March 2012 as more particularly described in the Registration Statement.

We have examined such corporate records, certificates and other documents and such questions of law as we have considered necessary and appropriate for the purposes of this opinion.

Upon the basis of such examination, we advise you that, in our opinion, the Shares covered by the Registration Statement have been duly authorized and, when issued in accordance with the terms and conditions of the respective warrant (including the due payment of any exercise price therefor specified in the respective warrant), will be validly issued, fully paid and non-assessable.

Our opinion herein is expressed solely with respect to the federal laws of the United States and the General Corporation Law of the State of Delaware. Our opinion is based on these laws as in effect on the date hereof.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the references to this firm in the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act.

Very truly yours,

/s/ LOWENSTEIN SANDLER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated March 13, 2014 with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report on Form 10-K for the year ended December 31, 2013 of NeoStem, Inc., which are incorporated by reference in this Registration Statement. We consent to the incorporation by reference in the Registration Statement of the aforementioned reports, and to the use of our name as it appears under the caption "Experts."

/s/ GRANT THORNTON LLP

New York, New York June 12, 2014

CONSENT OF INDEPENDENT AUDITOR

NeoStem, Inc. New York, New York

We hereby consent to the incorporation by reference in the Registration Statement of NeoStem, Inc. on Form S-3 of our report dated February 5, 2014, related to our audits of the consolidated financial statements of California Stem Cell, Inc. and subsidiaries as of and for the years ended December 31, 2013 and 2012, which is included in the Current Report on Form 8-K of NeoStem, Inc. dated May 8, 2014. We also consent to the reference of our firm under the caption "Experts" in such registration statement.

/s/ MCGLADREY LLP

Irvine, California June 12, 2014