UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a)

of the Securities Exchange Act of 1934

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Check the appropriate box:

☐ Preliminary Proxy Statement

☐ Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

☐ Definitive Proxy Statement

x Definitive Additional Materials

☐ Soliciting Material Pursuant to §240.14a-12

NEOSTEM, INC.

(Name of Registrant as Specified in its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

x No fee required.

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NeoStem®

ANNUAL REPORT TO SHAREHOLDERS

August 29, 2014

Dear NeoStem Shareholders,

We believe that cell therapy will play a large role in changing the natural history of diseases as breakthrough therapies are investigated and 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. In that vein, we are building NeoStem to be a leader in the emerging cellular therapy industry, pursuing the preservation and enhancement of human health globally through our efforts to develop cell based therapeutics that prevent, treat or cure disease. Our cell therapy platforms seek to address the pathology of disease using a person's own cells in order 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.

Our mission is to transform the future of medicine with innovative cell therapies while providing development and manufacturing services that drive the industry forward.

At NeoStem, our mission is to transform the future of medicine with innovative cell based therapies while providing development and manufacturing services that drive the industry forward. We are committed to showing the world the path to better medicine. Our goal is to reduce a lifetime dependency on pills to a single dose of cells and help society reduce the burden of an unsustainable healthcare system. Our vision is a world where chronic disease is a problem of the past and patients have the freedom to enjoy a healthier span of life. We truly believe that cell therapies will be better medicine.

Our business includes the investigation of novel proprietary cell therapy products, as well as a revenue-generating contract development and manufacturing service business that we leverage in the development efforts for our therapeutics while providing service to other companies in the cell therapy industry. We believe this combination provides us with unique capabilities for cost effective in-house product development and immediate revenue and future cash flow to help underwrite our internal development programs.

NeoStem is a standout enterprise given its multi-dimensional and diversified approach to accelerating its clinical pipeline.

A review of the current status of the cell therapy sector reveals NeoStem as a standout enterprise given our multi-dimensional and diversified approach to accelerating our clinical pipeline through acquisition, internal executive hires and pursuit of multiple independent platforms to support our capacity to grow shareholder value. The key drivers of our growth will relate to the

generation of late stage clinical data, the diversity of our platforms, and our unique set of industry specific skills.

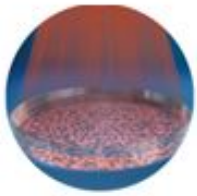
I'd like to share highlights regarding NeoStem's strategic growth and development plans.

CLINICAL AND DEVELOPMENT UPDATES

NeoStem continues to advance its development activities. Our proprietary product development pipeline targets unmet medical needs through multiple programs including our *Targeted Cancer Immunotherapy Program*, our *Ischemic Repair Program*, our *Immune Modulation Program* and our *Tissue Regeneration Program.*

Targeted Cancer Immunotherapy Program

NBS20 Manufacturing Process



Day 0 – Week 6: The cancer initiating (stem) cells from the tumor are isolated, expanded, and irradiated to render them inactive

Prior to Week 6: Patient undergoes leukapheresis, a standard procedure in which monocytes are extracted from circulating blood

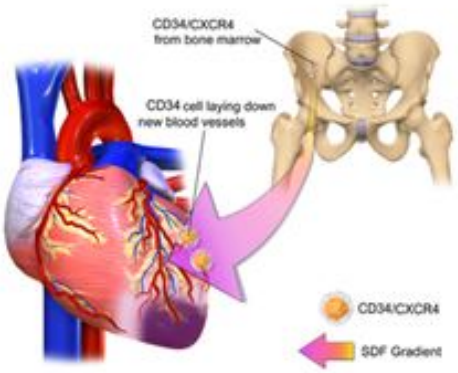
Week 6: Monocytes mature into dendritic cells, and are exposed to the irradiated cancer initiating (stem) cells, learning how to identify cancer initiating (stem) cells based on their antigen signature

NeoStem's business model enables the Company to be opportunistic in growing its pipeline as evidenced by the Company's strategic acquisition in May 2014 of California Stem Cell, Inc. ("CSC"), a cell biotechnology corporation that was developing cellular immunotherapies for cancer, an area we view to be one of the most promising sub-sectors in biotechnology. The lead product candidate in our immunotherapy pipeline, as well as our overall lead product candidate in development, is NBS20, that uses the DC/TC (dendritic cell/tumor cell) technology acquired from CSC, and is targeting malignant melanoma initiating cells. This immunotherapy being investigated to treat Stage IV or recurrent Stage III metastatic melanoma, which has been granted fast track and orphan designation by the Food and Drug Administration ("FDA"), also has a Phase 3 protocol that is the subject of a Special Protocol Assessment ("SPA"). The SPA indicates that the FDA is in agreement with the design, clinical endpoints, and planned clinical analyses of the Phase 3 trial that would serve as the basis for a Biologics License Application ("BLA"), which would be filed with the FDA if warranted by the results of the Phase 3 trial requesting marketing approval of this therapeutic candidate. This protocol calls for enrolling 250 evaluable patients, and the trial (the Intus clinical trial) is expected to be initiated in 2014. We are evaluating other clinical indications into which we may advance this program, including liver, ovarian and lung cancers.

Ischemic Repair Program

We are also investigating therapies to address ischemia through utilizing CD34 cells. 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. NBS10 (also referred to

as AMR-001) is our most clinically advanced product candidate in our ischemic repair program and is being investigated for the treatment of damaged heart muscle following an acute myocardial infarction (heart attack or "AMI"). Recent clinical data on investigational CD34 cell therapies published by third parties provides evidence of improved event-free survival at five years post-treatment in patients with dilated cardiomyopathy and higher probability of amputation-free survival at one year post-treatment for patients with critical limb ischemia (CLI). These data suggest the use of CD34 cell therapy to treat chronic heart failure and CLI.

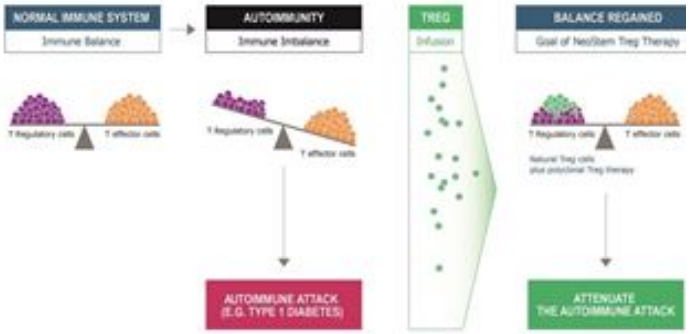


The Company's PreSERVE AMI study is a randomized, double-blinded, placebo-controlled Phase 2 clinical trial testing NBS10, an autologous (donor and recipient are the same) adult stem cell product being investigated for the treatment of patients with left ventricular dysfunction following acute ST segment elevation myocardial infarction ("STEMI"). An abstract for the PreSERVE AMI study has been accepted for presentation at the American Heart Association's Scientific Sessions being held November 15-19, 2014 although we anticipate results of the study will be released earlier.

We are evaluating other clinical indications into which we may advance the ischemic repair program, including traumatic brain injury, chronic heart failure, and critical limb ischemia.

Immune Modulation Program

Another platform technology investigates the use of T Regulatory Cells ("Tregs") to treat diseases caused by imbalances in an individual's immune system. NeoStem's immune modulation program is based on the premise that many autoimmune diseases are caused by an imbalance in the immune system between the T-effector cells and the T-regulatory cells. By expanding and re-infusing a patient's own T-regulatory cells, we believe the immune system can be brought into balance and the autoimmune attack can be suppressed.



Collaborating with the University of California San Francisco ("UCSF"), we are utilizing the technology platform held by our majority-owned subsidiary, Athelos Corporation, to investigate the restoration of 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 antigens. When Tregs function properly, only harmful foreign materials are attacked by T-effector cells. In autoimmune diseases, such as diabetes, it is thought that deficient Treg activity permits the T-effector cells to attack the body's own tissues, while in allergic diseases, like asthma, it is thought that the immune system overreacts to harmless foreign substances.

Presentation by UCSF on June 15th at the American Diabetes Association ("ADA") annual meeting of the results of a Phase 1 study using autologous T regulatory cells (NeoStem's licensed technology) in adult patients with type 1 diabetes mellitus ("T1DM") indicated safety and tolerability following administration, and complements recently published 12-month follow up data showing feasibility and preliminary evidence of efficacy in children with T1DM. Taken together, the results provide preliminary data that support developing a novel therapy for the treatment of T1DM with the goal of inducing immune tolerance and preserving pancreatic beta cell function.

We plan to initiate in 2014, subject to review and approval of the protocols by the appropriate regulatory authorities, a Phase 2 study of NBS03D, a Treg based therapeutic, in the treatment of type 1 diabetes, and a Phase 1 study in Canada of NBS03A, a Treg based therapeutic, in support of our steroid resistant asthma development program.

Tissue Regeneration Program

Pre-clinical assets include our VSEL™ (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™ for the treatment of chronic wounds. Other preclinical work with VSELs™ includes exploring macular degeneration as a target indication through a research collaboration with Massachusetts Eye and Ear/Schepens Eye Research Institute.

Recent pre-clinical data in animal models suggest that VSELs™ may be capable of developing into cells of all three germ layers which, if substantiated by further research, could imply significant potential for restorative healing. Independent investigators in preclinical models have demonstrated the regenerative potential of VSELs™ and we will continue to support preclinical and early clinical studies to further assess the regenerative potential of VSEL™ Technology.

PROGENITOR CELL THERAPY

NeoStem is taking advantage of the dramatic growth in the cell therapy industry both for our clients and for our internal pipeline by vertically integrating the collection, storage and processing of cellular material and by developing, manufacturing, distributing, and delivering investigational cell therapy products for the conduct of clinical trials and in anticipation of a new and growing commercial marketplace.

Progenitor Cell Therapy, LLC ("PCT") is a contract development and manufacturing organization (CDMO) in the cellular therapy industry 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 the capital investment required 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.

With the acquisition of CSC, NeoStem now has three cGMP, state-of-the art, cell therapy research, development, and manufacturing facilities located on both the East (New Jersey) and West (California) Coasts to support its internal R&D efforts and to provide the cell therapy community with integrated and regulatory compliant services. Our Irvine, California facility will provide manufacturing support for the Intus Phase 3 melanoma clinical trial of NBS20, and we are now in a position to leverage the immunotherapy expertise at this facility to the technologies of PCT's client base as well. PCT continues to pursue commercial expansion of its contract operations both in the U.S. and internationally. In our latest reported quarter, we also noted a substantial increase in the number of clinical service contracts and active clients at PCT.

As the field of regenerative medicine matures and an increasing number of products are poised to reach the marketplace, valuable lessons are being learned about the strengths and weaknesses of various business models that may allow for therapies to be delivered to a large number of patients. PCT's newly formed Engineering & Innovation Center is working, on behalf of NeoStem's internal development pipeline and for its own clients, to think beyond current practices to accelerate the use of automation, integration and other engineering strategies to address the important issues of scale up, cost of goods, and improved robustness of manufacturing processes in anticipation of commercial production.

PCT's newly formed Engineering & Innovation Center is working, on behalf of NeoStem's internal development pipeline and for its own clients, to think beyond current practices

PCT is applying engineering principles to transition cell therapy products from their scientific foundation to efficient, reliable, and cost-effective manufacturing. To prepare for successful

commercial-scale manufacturing, we have established principles we call Development by Design that guide a structured manufacturing development methodology centered on unit operations. In addition to building our internal core of engineering and innovation expertise, we are partnering with commercial enterprises and academic institutions to both leverage existing and develop novel manufacturing technologies to meet needs such as closed system design, automation, and integration, all with the aim to optimize manufacturing processes. In this way, we believe we will be able to support the manufacture of cell therapy products with consistently high quality, at a reasonable cost of goods, to meet product demand in a scalable manner throughout the product life cycle.

PCT's business model uniquely positions NeoStem to take advantage of revenues generated in a growing industry, while reducing our reliance on the success of NeoStem's internal development platforms. This unique revenue-generating CDMO business allows NeoStem to remain up-to-date on the most innovative developments in the sector, informing our decisions as we seek to co-develop and/or acquire new technologies.

SUMMARY

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 NBS20, a late stage novel proprietary investigational cancer cell therapy to 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 strong manufacturing capability, we believe the stage is set for us to realize meaningful clinical development and manufacturing efficiencies, further positioning NeoStem to lead the cell therapy industry. We appreciate your continued confidence in the Company's agenda and will continue to provide updates on our progress as we work to save lives and end suffering for the millions of people afflicted with chronic disease.

To learn more, please visit neostem.com.

Regards,

Robin L. Smith, M.D., MBA
Chairman and Chief Executive Officer

Forward-Looking Statements

This letter contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements reflect management's current

expectations, as of the date of this letter, and involve certain risks and uncertainties. Forward-looking statements include statements herein with respect to the successful execution of the Company's business strategy, including with respect to the Company's ability to develop and grow its business, the successful development of cellular therapies, including with respect to the Company's research and development and clinical evaluation efforts in connection with the Company's Targeted Cancer Immunotherapy Program, Ischemic Repair Program, Immune Modulation Program and Tissue Regeneration Program, the future of the regenerative medicine industry and the role of stem cells and cellular therapy in that industry and the performance and planned expansion of the Company's contract development and manufacturing business. The Company's actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors. Factors that could cause future results to materially differ from the recent results or those projected in forward-looking statements include the "Risk Factors" described in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 13, 2014 and Current Report on Form 8-K filed with the Securities and Exchange Commission on May 8, 2014 and in the Company's periodic filings with the SEC. The Company's further development is highly dependent on future medical and research developments and market acceptance, which is outside its control.