

BIOTIME INC  
Form DEFA14A  
May 24, 2011

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934  
(Amendment No. 2)

Filed by the Registrant

Filed by a Party other than the Registrant

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

Definitive Additional Materials

Soliciting Material under §240.14a-12

BioTime, 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):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (Set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

Fee paid previously with preliminary materials.

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

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

---

Dear Fellow Shareholders,

We are pleased to report that the past year was a period of significant growth for the BioTime family of companies. Our transition from a company with leading technology to one that also has a widening array of products available for sale and under development is now well underway. By positioning itself to lead the emerging field of regenerative medicine, BioTime is benefiting from the rare opportunity to build an industry, not just a company. In this letter we will summarize the opportunity in stem cells and regenerative medicine, how BioTime is positioning itself to lead in this important new field, and some goals shareholders should expect for the coming year.

#### The potential of regenerative medicine

The field of regenerative medicine, now in its second decade, began with the quest for a means to rebuild tissues afflicted with chronic degenerative disease. In the past, medical therapies largely depended upon the use of drugs or surgery. However, chronic degenerative diseases, in which cells in the body are lost or become dysfunctional, are often not well managed by these methods. For instance, the loss of heart muscle cells, which leads to a weakened heart, cannot yet be reversed by any drug or surgical technique. Other examples of age-related chronic degenerative diseases include Parkinson's disease, osteoarthritis, osteoporosis, age-related macular degeneration, and atherosclerosis; at present, there are no cures for these increasingly prevalent conditions. Chronic disorders are currently responsible for 75% of our national medical costs. And these costs are growing rapidly due to the aging of the baby boomer generation. Regenerative medicine represents both a potential source of effective treatments for these chronic disorders and also an enormous business opportunity for those companies that develop effective therapies.

During the mid 1990s, the biotechnology industry began to respond to the growing need for effective treatments of degenerative diseases. A new field of medical research that came to be known as regenerative medicine emerged based on the potential of human embryonic stem cells to regenerate all cell types in the human body. Today, regenerative medicine is focused on two primary types of regenerative or "pluripotent" cells, namely, human embryonic stem (hES) cells and induced pluripotent stem (iPS) cells. Essentially identical to hES cells, iPS cells can be generated from a patient's own cells, and replacement tissues generated from the iPS cells, if properly generated, may circumvent the risk of transplant rejection.

#### The four key ingredients to building the leading company in regenerative medicine

##### 1) A means of manufacturing purified product

The great potential for hES cells is based on their "pluripotency," meaning the ability of hES cells to turn into thousands of cell types. Yet in this very strength remains a weakness: the largest technological hurdle facing the regenerative medicine industry is the difficulty of manufacturing only specific cell types. In other words, researchers have struggled to produce single cell types in pure batches, free of contamination by extraneous cell types produced by the stem cells. BioTime's powerful proprietary technology, ACTCellerate™, addresses this challenge. Our ACTCellerate™ technology has enabled us to develop a bank of over 200 different, highly purified, and industry-scalable human embryonic progenitor cell (hEPC) types. We have received a \$4.7 million grant from the California Institute for Regenerative Medicine (CIRM) to fund the development of ACTCellerate™ on a sufficiently large scale to produce hEPC lines that will meet the standards of purity and identity necessary for human clinical use. In the meantime, we are also marketing many of our ACTCellerate™ hEPC lines for research use to universities and to companies in the bioscience industries. Numerous customers in the U.S. and China are already using these research products.

##### 2) Clinical-grade hES master cell banks for the manufacture of off-the-shelf products

For certain clinical applications, we believe that replacement cells can be manufactured for all people from a single line of hES cells, without risking transplant rejection. These highly coveted product opportunities are widely considered low-hanging fruit in the industry. In applications such as cells transplanted into the retina of the eye, into the brain, into the joints, or in cases in which cells target tumors specifically to destroy them, the cells will ideally be manufactured from a source of hES cells produced under standards of Good Manufacturing Practices (GMP). BioTime now has a bank of six GMP hES cell lines acquired with our purchase of the Singapore-based company ES Cell International Pte. Ltd. (ESI). ESI previously developed the cell bank with approximately \$30 million of funding, provided in part by the Government of Singapore. During November and December 2010, we signed agreements with CIRM and the University of California system to distribute five of those research-grade and GMP-compliant hES cell lines to California-based researchers. We believe that making the GMP-grade cell lines available to researchers may streamline the translation of basic science into therapies, and the commercial application of such products will require a royalty-bearing agreement with BioTime.

3) A robust technology for reprogramming human cells back to a pluripotent state

BioTime scientists have invented a proprietary iPS cell technology called ReCyte™ designed to reprogram a patient's cells, such as skin cells, back to hES-like cells. Our ReCyte™ technology is generically referred to as iPS cell technology, although ReCyte™ is a proprietary method that differs from most other published iPS techniques and may have distinct advantages over the competing iPS technologies, including with respect to preventing immune reactions. While the majority of the stem cell products that we are developing use our hES cells from master cell banks, iPS cells will likely play an important role in medicine as well. Patients would benefit from grafts being created from their own cells.

4) Near and intermediate term commercialization strategies

While regenerative medicine will likely be a very large industry in coming decades, in our opinion, the successful companies will be those that correctly identify and aggressively develop significant sources of revenue in the near and intermediate term while also maintaining overall technological leadership. Our current research products include our ACTCellerate™ hEPC lines, cell growth media, our GMP-grade hES cell lines, and our Glycosan HyStem® hydrogel products. In the intermediate term, we are also implementing plans to develop HyStem®-Rx as a cell delivery device for use in reconstructive surgery and other cell transplant therapies.

Implementing our business strategy

Since our last Annual Meeting of Shareholders, we have grown to become an international organization that includes seven subsidiaries, each focused on a particular field or market area within regenerative medicine. In building these companies, our business strategy has been to utilize a broad technology platform to create the greatest possible value for our shareholders. Four of these companies have already raised outside capital, though BioTime remains the majority owner of all seven. Each company is developing its business in various ways, including activities such as hiring key personnel, conducting pre-clinical research, developing products, and establishing important customer relationships. These efforts should lead, over time, to each company becoming self-sustaining. For BioTime, the result should be substantial value creation through our ownership of equity in each company.

BioTime Asia, Limited

BioTime Asia was formed in September 2009 and is offering stem cell research products for sale in certain Asian countries. BioTime Asia will also seek to develop therapeutic products for the treatment of ophthalmologic, skin, musculoskeletal system, and hematologic diseases, including the targeting of genetically modified stem cells to tumors as a novel means of treating currently incurable forms of cancer. BioTime Asia will focus on markets for therapeutic products in the People's Republic of China, including Hong Kong and Macau, but it may also offer research products in other Asian countries. Shanghai Genext Medical Technology Co., Ltd. has entered into an agreement with BioTime Asia to distribute our products for research purposes in those territories.

Cell Cure Neurosciences, Ltd.

Cell Cure Neurosciences was founded in 2005 under the scientific leadership of Dr. Benjamin Reubinoff, and is focused on the development of cell therapies for retinal and neural degenerative diseases, including age-related macular degeneration (AMD), Parkinson's disease, and multiple sclerosis. In 2010, BioTime acquired a majority interest in Cell Cure Neurosciences through the acquisition of ESI and a subsequent direct investment by BioTime together with both Teva Pharmaceutical Industries, Ltd. and HBL-Hadasit Bio-Holdings, Ltd. In conjunction with its investment, Teva received an option to develop and commercialize Cell Cure Neurosciences' OpRegen™ and OpRegen Plus™ for the treatment of AMD. The OpRegen™ products utilize proprietary technology that drives the differentiation of hES cells into retinal pigment epithelial (RPE) cells. Cell Cure Neurosciences scientists have shown that RPE cells produced using this technology can preserve vision in animal models when transplanted in the subretinal space. The primary focus of Cell Cure's current efforts is the completion of the pre-clinical work necessary to file for approval to enter human clinical trials with OpRegen™.

OncoCyte Corporation

OncoCyte Corporation was formed in 2009 and is developing cellular therapeutics for the treatment of cancer that will take advantage of the role of vascular endothelial progenitor cells in tumor angiogenesis. OncoCyte is developing genetically modified hES-derived vascular progenitors designed to target and destroy malignant tumors. In 2010, BioTime purchased the assets of Cell Targeting, Inc. that may be used by OncoCyte, including technology that uses peptides selected for their ability to adhere to diseased tissues. OncoCyte's CEO, Joseph Wagner, Ph.D., and his scientific team are currently developing carrier cells for initial animal testing later this year. OncoCyte's therapeutic products are in preclinical stages of development. OncoCyte has raised capital from two outside investors in addition to BioTime's own investment in the company.

#### OrthoCyte Corporation

OrthoCyte Corporation was formed in 2010 to develop cell-based therapies for orthopedic disorders. OrthoCyte's lead product candidate is the development of hEPC lines for cartilage repair or replacement to treat osteoarthritis. OrthoCyte's lead cartilage regeneration products, OTX-CP03 and OTX-CP07, are highly purified ACTCellerate™ hEPC lines formulated with Glycosan HyStem-C™ hydrogel, and currently are in nonclinical testing for safety and efficacy. If our studies in animal models prove successful, we plan to initiate an IND filing with the FDA for permission to conduct clinical trials of these therapeutic cell lines. Professor Arnold Caplan, one of the pioneers of stem cell research, is OrthoCyte's Chief Scientific Officer.

In March 2011, Glycosan BioSystems, Inc. merged with OrthoCyte. Glycosan has been a leader in developing, manufacturing, and marketing proprietary biocompatible hydrogels that form an extracellular matrix, an important and complex mixture of macromolecules that cement cells together in the body. We expect OrthoCyte to continue to utilize Glycosan's HyStem® hydrogels in its stem cell-based therapeutic products, and to develop HyStem®-Rx as a cell delivery device for use in reconstructive and other cell transplant surgeries.

#### ReCyte Therapeutics, Inc.

ReCyte Therapeutics (formerly Embryome Sciences, Inc.) is developing products for the treatment of cardiovascular and blood diseases utilizing its proprietary ReCyte™ iPS technology. ReCyte™ technology will be used to create iPS cells by reversing the developmental aging of human cells. Those ReCyte™ iPS cell lines will then be used to generate embryonic vascular and blood progenitors for therapeutic use in age-related vascular and blood disorders such as coronary disease and heart failure. ReCyte has raised capital from two outside investors. ReCyte's research program is being led by Dr. Homayoun Vaziri, who recently joined BioTime after a distinguished career as a leading academic stem cell researcher.

#### LifeMap Sciences, Inc.

In April of 2011 we formed LifeMap Sciences, Inc., in collaboration with Xenex, Inc. Our plan for LifeMap Sciences is to develop and commercialize a database that can track both the thousands of cell lineages branching from embryonic stem cells and the distinct molecular markers of those cells. LifeMap Sciences intends to make certain aspects of the database available for use by stem cell researchers at pharmaceutical and biotechnology companies and other institutions via paid subscriptions or on a fee-per-use basis. The database will permit users to follow the development of embryonic stem cell lines to the purified progenitor cell lines created by BioTime using its proprietary ACTCellerate™ technology. Our partner, Xenex, developed the GeneCards(R) database ([www.genecards.org](http://www.genecards.org)), the leading online genetics database, in collaboration with the Weizmann Institute of Science.

#### ES Cell International Pte. Ltd.

In May 2010, we acquired ESI, a company at the forefront of advances in hES cell technology. In 2007, ESI introduced the world's first hES cell lines derived according to the principles of cGMP or current Good Manufacturing Practice. ESI's clinical-grademaster cell banks may be used to generate clonal clinical-grade embryonic progenitor cell lines with a level of purity and quality unsurpassed in the industry. We expect that the acquisition of ESI's clinical-grade hES cell bank will save years of development time and thereby accelerate the development of clinical-grade progenitor cells for potential use as research and therapeutic products. Late in 2010, we announced special distribution arrangements for these GMP-compliant hES cell lines. Working with CIRM and the University of California system, we agreed to make five research-grade hES cell lines available to California-based researchers. We believe that researchers using the GMP-grade cell lines may streamline the translation of basic science to human therapies. If the users of the cell lines develop and commercialize therapeutic products from our GMP cell lines, we will receive royalties on product sales.

#### Strengthening our balance sheet

Even as we were growing our company by entering into new fields of regenerative medicine and acquiring new technologies and products, we were able to strengthen our financial position. During the 18 months ending on November 1, 2010, when our publicly traded stock purchase warrants expired, we received total proceeds of more than \$24 million from warrant exercises. In 2010, we also received substantial grant funding, including our ongoing CIRM grant as well as a \$733,000 grant under the U.S. Government's Qualifying Therapeutic Discovery Project program. The grants awarded BioTime were for the maximum amount allowed for three of our programs: orthopedic product development, our ACTCellerate™ program, and our ReCyte™ program. Our revenues from product sales, including revenues from Hextend®, our proprietary physiologically balanced blood plasma volume expander, and sales of our new research products, have offset some of our research spending, thereby also maintaining the strength of our balance sheet. Also in 2010, our subsidiaries continued to build their own balance sheets by raising equity capital from outside investors, an important step as they move toward becoming self-sustaining.

Result: A robust company increasing shareholder value

In 2011, we will continue the momentum created in 2010 by building our subsidiaries, implementing an aggressive marketing program for our research products, and forming alliances with other companies for the development of the diverse therapeutic opportunities in our library of over 200 industry-scalable hEPC types. We believe that stem cell researchers and developers of new products for regenerative medicine can make great strides using our hES and hEPC lines. We hope to create longstanding relationships with both academic colleagues and corporate partners as they develop solutions for people with previously intractable diseases.

Sadly, in 2010 we lost a dear friend and board member Dr. Robert Butler. As the founding director of the National Institute on Aging, Dr. Butler was a world leader in bringing attention to the need for new therapies for the treatment of age-related disease. We will apply our best efforts in the next year to actualize, if only in part, his vision of a brighter world for an aging population.

We would like to take this opportunity to thank you and all of our fellow shareholders for your support as we continue to build our company. We look forward to seeing you again in New York City on June 23, 2011 for our Annual Meeting of Shareholders.

Sincerely,  
Michael D. West, Ph.D.  
President & CEO

Alfred D. Kingsley  
Chairman of the Board

May 23, 2011

---