

BIOTIME INC  
Form 10-K  
March 23, 2009

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SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)  
OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2008

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-12830

BioTime, Inc.

(Exact name of registrant as specified in its charter)

California  
(State or other jurisdiction of  
incorporation or organization)

94-3127919  
(I.R.S. Employer  
Identification No.)

1301 Harbor Bay Parkway, Suite 100  
Alameda, California 94502  
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code (510) 521-3390

Securities registered pursuant to Section 12(b) of the Act:  
None

Securities registered pursuant to Section 12(g) of the Act

|                |                                |
|----------------|--------------------------------|
| Title of class | Common Shares, no par value    |
| Title of class | Common Share Purchase Warrants |

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

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Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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.

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

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

The approximate aggregate market value of voting common shares held by non-affiliates computed by reference to the price at which common shares were last sold as of March 5, 2009 was \$25,292,673. Shares held by each executive officer and director and by each person who beneficially owns more than 5% of the outstanding common shares have been excluded in that such persons may under certain circumstances be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of common shares outstanding as of February 26, 2009 was 25,213,569

Documents Incorporated by Reference

None

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BioTime, Inc.

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## PART I

Statements made in this Form 10-K that are not historical facts may constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those discussed. Words such as “expects,” “may,” “will,” “anticipates,” “intends,” “plans,” “believes,” “seeks,” “estimates,” and similar expressions identify forward-looking statements. See “Risk Factors” and Note 1 to Financial Statements.

### Item 1. Business

#### Overview

We are a biotechnology company engaged in two areas of biomedical research and product development. First, we historically have developed blood plasma volume expanders, and related technology for use in surgery, emergency trauma treatment and other applications. Our lead blood plasma expander product, Hextend®, is a physiologically balanced intravenous solution used in the treatment of hypovolemia. Hypovolemia is a condition caused by low blood volume, often from blood loss during surgery or from injury. Hextend maintains circulatory system fluid volume and blood pressure and keeps vital organs perfused during surgery and trauma care.

Our regenerative medicine business is operated through our wholly owned subsidiary Embryome Sciences, Inc. Regenerative medicine refers to therapies based on human embryonic stem (“hES”) cell technology that are designed to rebuild cell and tissue function lost due to degenerative disease or injury. These novel stem cells provide a means of manufacturing every cell type in the human body and therefore show considerable promise for the development of a number of new therapeutic products. We are focusing our current efforts in the regenerative medicine field on the development and sale of advanced human stem cell products and technology that can be used by researchers at universities and other institutions, at companies in the bioscience and biopharmaceutical industries, and at other companies that provide research products to companies in those industries. These research-only markets generally can be marketed without regulatory (FDA) approval, and are therefore relatively near-term business opportunities when compared to therapeutic products. We may also initiate development programs for human therapeutic applications should it be determined that it is practical to raise the required capital or partner with a third party on terms acceptable to the company.

Our operating revenues have been derived almost exclusively from royalties and licensing fees related to the sale of our plasma volume expander products, primarily Hextend. We began to make our first stem cell research products available during 2008 but we have not yet generated significant revenues in that business segment. Our ability to generate substantial operating revenue depends upon our success in developing and marketing or licensing our plasma volume expanders and stem cell products and technology for medical and research use.

#### Products for Stem Cell Research

We are developing products and technology for use in the new field of regenerative medicine. Regenerative medicine refers to therapies based on human embryonic stem (“hES”) cell technology. Since these cells have the ability to transform into all of the cells of the human body (a property called pluripotency), they enable the manufacture of a host

of new products of interest to medical researchers such as cells designed to rebuild cell and tissue function lost due to degenerative disease or injury and cell lines for basic research and discovery of new drugs. Since embryonic stem cells can now be derived in a noncontroversial manner, they are increasingly likely to be utilized in a wide array of future research programs in the attempt to restore the function of organs and tissues damaged by degenerative diseases such as heart failure, stroke, Parkinson's disease, macular degeneration, diabetes, as well as many others.

In our subsidiary Embryome Sciences, Inc., we are working to merge new technologies in the study of DNA (genomics) with the biology of embryonic stem cells to provide scientists with a detailed "roadmap" of the human developmental tree, the factors to push the cells into desired lineages, and tools to purify the desired cell types. This detailed map of the embryome is expected to allow scientists to better characterize the cells they produce, facilitate the purification of product, and thereby reduce the chances of contaminating cell types causing complications in patients. Embryome Sciences launched a first draft of this map in its online database Embryome.com in 2008 and intends to continuously improve the content of this site to aid researchers and to familiarize scientists with a growing catalog of our research products.

We plan to focus our efforts in the regenerative medicine field on the development and sale of advanced human stem cell products and technologies that can be used by researchers at universities and other institutions, at companies in the bioscience and biopharmaceutical industries, and at other companies that provide research products to companies in those industries. By focusing our resources on products and technologies that will be used by researchers and drug developers at larger institutions and corporations, we believe that we will be able to commercialize products more quickly, and using less capital, than developing therapeutic products ourselves. We may also attempt to develop our own human stem cell products for diagnostic and therapeutic uses in the future, if we believe that we have sufficient resources to do so or if we can do so in collaboration with other companies or institutions.

We have already introduced our first stem cell research products, and we are implementing plans to develop additional research products over the next two years.

#### Embryome Database

The future challenge for regenerative medicine is to navigate the complexity of human development, to identify the many hundreds of cell types coming from embryonic stem cells, and to manufacture purified populations of desired cell types. To assist researchers in attaining these goals, we are creating a detailed "map" of the human and mouse embryome that will take the form of a relational database intended to permit researchers to chart the cell lineages of human development, the genes expressed in those cell types, and antigens present on the cell surface of those cells that can be used in purification. Our embryome map database is now available at our website [embryome.com](http://embryome.com).

### ESpan™ Cell Growth Media

We are also now marketing a line of cell growth media products called ESpan™. These growth media are optimized for the growth of primitive human embryonic progenitor cell types. In both the laboratory setting where basic research on stem cells is performed as well as the commercial sector where stem cells are scaled up for the manufacture of cell-based therapies or for the identification of new drugs, cells need to be propagated in liquid media. We expect that rather than propagating hES cells in large quantities, many end users will instead propagate cells using media optimized for the propagation of embryonic progenitor cells created from hES cells.

### ESpy™ Cell Lines

Additional new products that we have targeted for development are ESpy™ cell lines, which will be derivatives of hES cells that send beacons of light in response to the activation of particular genes. The ESpy™ cell lines will be developed in conjunction with Lifeline using the ACTCellerate technology licensed from Advanced Cell Technology, Inc. (“ACT”) and other technology sublicensed from Lifeline.

### Other New Products Planned

We also plan to bring to market other new growth and differentiation factors and kits that will permit researchers to manufacture specific cell types from embryonic stem cells, and purification tools useful to researchers in the quality control of products for regenerative medicine. As new products are developed, they will become available for purchase on [embryome.com](http://embryome.com).

Human embryonic stem cell technology is approximately 10 years old and evolving rapidly. As a result, we cannot accurately forecast the amount of revenue that the new products we offer might generate.

### Licensed Stem Cell Technology and Stem Cell Product Development Agreements

We have obtained the right to use stem cell technology that we believe has great potential in our product development efforts, and that may be useful to other companies that are engaged in the research and development of stem cell products for human therapeutic and diagnostic use. We have also entered into an agreement to produce and market stem cell products jointly with Lifeline, which also provides us with a license to use certain technology owned or licensed by them.

### Licensed Patents

We have entered into a Commercial License and Option Agreement with Wisconsin Alumni Research Foundation (“WARF”). The WARF license permits us to use certain patented and patent pending technology belonging to WARF, as well as certain stem cell materials, for research and development purposes, and for the production and marketing of “research products” and “related products.” “Research products” are products used as research tools, including in

drug discovery and development. "Related products" are products other than research products, diagnostic products, or therapeutic products. "Diagnostic products" are products or services used in the diagnosis, prognosis, screening or detection of disease in humans. "Therapeutic products" are products or services used in the treatment of disease in humans.

Under the WARF license agreement, we will pay WARF a license fee of \$225,000 in cash and \$70,000 worth of our common shares. The first installment of cash in the amount of \$10,000 was paid during February 2008, the common shares will be issued during March 2009, and the remaining \$215,000 is due on the earlier of (i) thirty (30) days after we raise \$5,000,000 or more of new equity financing, or (ii) March 2, 2010. A maintenance fee of \$25,000 will be due annually on March 2 of each year during the term of the WARF License beginning March 2, 2010.

We will pay WARF royalties on the sale of products and services under the WARF license. The royalty will be 4% on the sale of research products and 2% on the sale of related products. The royalty is payable on sales by us or by any sublicensee. The royalty rate is subject to certain reductions if we also become obligated to pay royalties to a third party in order to sell a product.

We will also pay WARF \$25,000 toward reimbursement of the costs associated with preparing, filing, and maintaining the licensed WARF patents. That fee is payable in two installments. The first installment of \$5,000 was paid during February 2008, and the remaining \$20,000 is due on the earlier of (i) thirty (30) days after we raise \$5,000,000 or more of new equity financing, or (ii) March 2, 2010.

We have an option to negotiate with WARF to obtain a license to manufacture and market therapeutic products, excluding products in certain fields of use. The issuance of a license for therapeutic products would depend upon our submission and WARF's acceptance of a product development plan, and our reaching agreement with WARF on the commercial terms of the license such as a license fee, royalties, patent reimbursement fees, and other contractual matters.

The WARF license shall remain in effect until the expiration of the latest expiration date of the licensed patents. However, we may terminate the WARF license prior to the expiration date by giving WARF at least ninety days written notice, and WARF may terminate the WARF license if we (a) fail to make any payment to WARF, (b) fail to submit any required report to WARF, (c) commit any breach of any other covenant in the WARF license that is not remedied within ninety days after written notice from WARF, or (d) commit any act of bankruptcy, become insolvent, are unable to pay our debts as they become due, file a petition under any bankruptcy or insolvency act, or have any such petition filed against us which is not dismissed within sixty days, or offers its creditors any component of the patents or materials covered by the WARF license.

#### Lifeline

We have entered into a Product Production and Distribution Agreement with Lifeline for the production and marketing of embryonic progenitor cells or progenitor cell lines, and products derived from those embryonic progenitor cells. The products developed under the agreement with Lifeline will be produced and sold for research purposes, such as drug discovery and drug development uses.



The proceeds from the sale of products to certain distributors with which Lifeline has a pre-existing relationship will be shared equally by us and Lifeline, after deducting royalties payable to licensors of the technology used, and certain production and marketing costs. The proceeds from products produced for distribution by both us and Lifeline, and products produced by one party at the request of the other party, will be shared in the same manner. Proceeds from the sale of other products, which are produced for distribution by one party, generally will be shared 90% by the party that produced the product for distribution, and 10% by the other party after deducting royalties payable to licensors of technology used. In the case of the sale of these products, the party that produces the product and receives 90% of the sales proceeds will bear all of the production and marketing costs of the product.

The products will be produced using technology and stem cell lines licensed from WARF, technology developed by us, technology developed by Lifeline, and technology licensed from ACT. WARF and ACT will receive royalties from the sale of the products developed using their licensed technology and stem cells.

We paid Lifeline \$250,000 to facilitate their product production and marketing efforts. We will be entitled to recover that amount from the share of product sale proceeds that otherwise would have been allocated to Lifeline.

#### ACTCellerate™ Technology

We have entered into a license agreement with ACT under which we acquired exclusive world-wide rights to use ACT's "ACTCellerate" technology for methods to accelerate the isolation of novel cell strains from pluripotent stem cells. The licensed rights include pending patent applications, know-how, and existing cells and cell lines developed using the technology.

The licensed technology is designed to provide a large-scale and reproducible method of isolating clonally purified human embryonic progenitor cell lines, many of which may be capable of extended propagation in vitro. Initial testing suggests that the technology may be used to isolate at least 140 distinct clones that contain many previously uncharacterized cell types derived from all germ layers that display diverse embryo- and site-specific homeobox gene expression. Despite the expression of many oncofetal genes, none of the human embryonic progenitor cell lines tested led to tumor formation when transplanted into immunocompromised mice. The cell lines studied appear to have a finite replicative lifespan but have longer telomeres than most fetal- or adult-derived cells, which may facilitate their use in the manufacture of purified lineages for research and human therapy. Information concerning the technology was published in the May 2008 edition of the journal *Regenerative Medicine*.

We may use the licensed technology and cell lines for research purpose and for the development of therapeutic and diagnostic products for human and veterinary use. We also have the right to grant sublicenses.

We paid ACT a \$250,000 license fee and will pay an 8% royalty on sales of products, services, and processes that utilize the licensed technology. Once a total of \$1,000,000 of royalties has been paid, no further royalties will be due.

ACT may reacquire royalty free, world wide licenses to use the technology for retinal pigment epithelial cells, hemangioblasts, and myocardial cells, on an exclusive basis, and for hepatocytes, on a non-exclusive basis, for human therapeutic use. ACT will pay us \$5,000 for each license that it elects to reacquire.

#### iPS Technology

We have entered into a license agreement and a sublicense agreement with ACT under which we acquired world-wide rights to use an array of ACT technology and technology licensed by ACT from affiliates of Kirin Pharma Company, Limited. The ACT license and Kirin sublicense permit the commercialization of products in human therapeutic and diagnostic product markets.

The licensed technology covers methods to transform cells of the human body, such as skin cells, into an embryonic state in which the cells will be pluripotent. This new technology is sometimes referred to as induced pluripotent stem cell (iPS) technology. Because iPS technology does not involve human embryos or egg cells, and classical cloning techniques are not employed, the use of iPS technology may eliminate some ethical concerns that have been raised in connection with the procurement and use of human embryonic stem cells in scientific research and product development.

The portfolio of licensed patents and patent applications covers methods to produce iPS cells that do not carry viral vectors or added genes. Other iPS technology currently being practiced by other researchers utilizes viruses and genes that are likely incompatible with human therapeutic uses. We believe that technologies that facilitate the reprogramming of human cells to iPS cells without using viruses could be advantageous in the development of human stem cell products for use in medicine.

The Kirin sublicense covers patent application for methods for cloning mammals using reprogrammed donor chromatin or donor cells and methods for altering cell fate. These patent applications relate to technology to alter the state of a cell, such as a human skin cell, by exposing the cell's DNA to the cytoplasm of another reprogramming cell with differing properties. We may use this licensed technology for all human therapeutic and diagnostic applications.

A second series of patent applications licensed nonexclusively from ACT includes technologies for the use of reprogramming cells that over-express RNAs for the genes OCT4, SOX2, Nanog, cMYC, and other factors known to be useful in iPS technology, methods of resetting cell lifespan by extending the length of telomeres, the use of the cytoplasm of undifferentiated cells to reprogram human cells, the use of a cell bank of hemizygous O- cells,

methods of screening for differentiation agents, and stem cell-derived endothelial cells modified to disrupt tumor angiogenesis. We may use this technology in commercializing the patents licensed under the Kirin Sublicense.

The ACT license also includes patent applications for other uses. One licensed patent application covers a method of differentiation of morula or inner cell mass cells and a method of making lineage-defective embryonic stem cells. That technology can be used in producing embryonic progenitor cells without the utilization of embryonic stem cell lines. Another licensed patent application covers novel culture systems for ex vivo development that contains technology for utilizing avian cells in the production of stem cell products free of viruses and bacteria.

#### ACT iPS License Provisions

Under the ACT license, we paid ACT a \$200,000 license fee and will pay a 5% royalty on sales of products, services, and processes that utilize the licensed ACT technology. Once a total of \$600,000 of royalties has been paid, no further royalties will be due. We will also pay 20% of any fees or other payments, other than equity investments, research and development costs, loans and royalties, received by us from sublicensing the ACT technology to third parties.

We may use the licensed technology and cell lines for research purpose and for the development of therapeutic and diagnostic products for human and veterinary use, excluding (a) human and non-human animal cells for commercial research use, including small molecule and other drug testing and basic research and (b) human cells for therapeutic and diagnostic use in the treatment of human diabetes, liver diseases, retinal diseases and retinal degenerative diseases, other than applications involving the use of cells in the treatment of tumors where the primary use of the cells is the destruction or reduction of tumors and does not involve regeneration of tissue or organ function. The exclusions from the scope of permitted uses under the ACT license will lapse if ACT's license with a third party terminates or if the third party no longer has an exclusive license from ACT for those uses.

Our license to use some of the ACT technology is non-exclusive, and is limited to use in conjunction with the technology sublicensed from ACT under the Kirin sublicense, and may not be sublicensed to third parties other than subsidiaries and other affiliated entities. We do have the right to grant sublicenses to the other licensed ACT technology.

We will have the right to prosecute the patent applications and to enforce all patents, at our own expense, except that ACT is responsible for prosecuting patent applications for the non-exclusively licensed technology at its own expense. We will have the right to patent any new inventions arising from the use of the licensed patents and technology.

We will indemnify ACT for any products liability claims arising from products made by us and our sublicensees.

The licenses will expire in twenty years or upon the expiration of the last to expire of the licensed patents, whichever is later.

#### Kirin Sublicense Provisions

Under the Kirin sublicense, we paid ACT a \$50,000 license fee and will pay a 3.5% royalty on sales of products, services, and processes that utilize the licensed ACT technology, and 20% of any fees or other payments, other than equity investments, research and development costs, loans and royalties we may receive from sublicensing the Kirin technology to third parties. We will also pay to ACT or to an affiliate of Kirin, annually, the amount, if any, by which royalties payable by ACT under its license agreement with Kirin are less than the \$50,000 annual minimum royalty due. Those payments will be credited against other royalties payable to ACT under the Kirin sublicense.

We may use the sublicensed technology for the development of therapeutic and diagnostic human cell products, including both products made, in whole or in part, of human cells, and products made from human cells. We have the right to grant further sublicenses.

We will indemnify ACT for any products liability claims arising from products made by us and our sublicensees.

The licenses will expire in upon the expiration of the last to expire of the licensed patents, or May 9, 2016 is no patents are issued.

#### Stem Cell Agreement with Reproductive Genetics Institute

We have entered into a Stem Cell Agreement with Reproductive Genetics Institute (“RGI”) pursuant to which we obtained the non-exclusive right to acquire RGI’s proprietary stem cell lines. The Stem Cell Agreement grants us rights to market new human embryonic stem cell (hES) lines selected by us from 294 hES lines derived by RGI. We will initially select 10 RGI hES cell lines, and may add additional cell lines at our option. We will receive starting cultures of the cell lines we select, and will scale up those cell lines for resale as research products. Because our rights are non-exclusive, RGI will retain the right to market and use its stem cell lines for its own account. RGI is a leading fertility center that screens embryos for genetic disorders, such as cystic fibrosis and muscular dystrophy prior to implantation. The RGI hES lines include both normal cells and 88 cell lines identified as carrying a host of inherited genetic disease genes, some of which we plan to sell as research products to universities and companies in the bio-science and pharmaceutical industries.

We will pay RGI a royalty in the amount of 7% of net sales on RGI derived cells sold for research purposes, such as the use of cells to test potential new drugs or diagnostic products. The Stem Cell Agreement requires us to sell the RGI cells for a minimum price of \$7,500 per ampule of cells. We also agreed to sell to RGI any cells that we derive from RGI stem cells at a price equal to 50% of the lowest price at which we sell those cells to third parties.

We will be marketing the acquired cells for research purposes only. However, the Stem Cell Agreement allows us and RGI to develop therapeutic or diagnostic uses of the cells, subject to approval by a joint steering committee composed of Embryome Sciences and RGI officers. In the absence of an agreement by the steering committee for a different revenue sharing arrangement, and provided that we are successful in developing and commercializing

one or more of those products for therapeutic or diagnostic uses, we would pay RGI a royalty based on net sales of each product. The royalty rate would be 50% of net sales of the product, minus one-half of any other royalties required to be paid to third parties. None of the RGI cells have been approved by the Food and Drug Administration or any equivalent foreign regulatory agency for use in the treatment of disease, and we do not have any specific plans for the development of RGI stem cells for use in the treatment or diagnosis of disease in humans.

We have agreed to issue RGI 32,259 of our common shares, no par value, as a license fee for the use of RGI's proprietary technology related to the first 10 cell types acquired by us under the Stem Cell Agreement. If we elect to acquire more than 10 cell types, we will issue RGI an additional number of BioTime common shares having a market value of \$5,000 for each additional cell type that we choose to acquire. The market value of our common shares will be based on the closing price of the shares on the OTC-Bulletin Board market on the date Embryome we elect to acquire the additional cell types.

### Plasma Volume Expanders and Related Products

#### Hextend

Our first product, Hextend, is a physiologically balanced blood plasma volume expander, for the treatment of hypovolemia. Hypovolemia is a condition caused by low blood volume, often from blood loss during surgery or from injury. Hextend maintains circulatory system fluid volume and blood pressure and helps sustain vital organs during surgery. Hextend, approved for use in major surgery, is the only blood plasma volume expander that contains lactate, multiple electrolytes, glucose, and a medically approved form of starch called hetastarch. Hextend is sterile to avoid risk of infection. Health insurance reimbursements and HMO coverage now include the cost of Hextend used in surgical procedures.

Hextend is part of the U.S. Armed Forces Tactical Combat Casualty Care protocol and is used to treat battlefield casualties. Hextend is also currently being used to treat hypovolemia subsequent to trauma or low blood pressure due to shock by emergency room physicians. After appropriate clinical testing and regulatory approval, it may be used by paramedics to treat acute blood loss in trauma victims being transported to the hospital.

Hextend is also being used in surgery with cardio-pulmonary bypass circuits. In order to perform heart surgery, the patient's heart must be stopped and a mechanical apparatus is used to oxygenate and circulate the blood. The cardio-pulmonary bypass apparatus requires a blood compatible fluid such as Hextend to commence and maintain the process of diverting the patient's blood from the heart and lungs to the mechanical oxygenator and pump. In a clinical trial conducted in 2001, cardiac surgery patients treated with Hextend, maintained more normal kidney function, experienced less pain and nausea, showed less deep venous thrombosis, avoided dialysis, and had shorter delay times to first meal compared to those treated with other fluids.

An important goal of the Hextend development program was to produce a product that can be used in multi-liter volumes. The safety related secondary endpoints targeted in the U.S. clinical study included those involving coagulation. We believe that the low incidence of adverse events related to blood clotting in the Hextend patients demonstrates that Hextend may be safely used in amounts exceeding 1.5 liters. An average of 1.6 liters of Hextend was used in the Phase III clinical trials, with an average of two liters for patients who received transfused blood products.

Hextend is being distributed in the United States by Hospira, Inc. (“Hospira”) and in South Korea by CJ CheilJedang Corp. (“CJ”) under exclusive licenses from us. Hospira also has the right to obtain regulatory approval and market Hextend in Latin America and Australia.

We are also developing another blood volume replacement product, PentaLyte®. It, like Hextend, has been formulated to maintain the patient’s tissue and organ function by sustaining the patient’s fluid volume and physiological balance.

#### PentaLyte

PentaLyte is our proprietary pentastarch-based synthetic plasma expander, designed especially for use when a faster elimination of the starch component is desired and acceptable. Although Hextend can be used in these cases, some physicians appear to prefer a solution which can be metabolized faster and excreted earlier when the longer term protection provided by Hextend is not required. PentaLyte combines the physiologically balanced Hextend formulation with pentastarch that has a lower molecular weight and degree of substitution than the hetastarch used in Hextend. Plasma expanders containing pentastarch are currently widely used around the world. Our present plan is to seek approval of PentaLyte for use in the treatment of hypovolemia. We have conducted a Phase II clinical study using PentaLyte in cardiac surgery for that purpose.

We have conducted a Phase II clinical trial using PentaLyte in the treatment of hypovolemia in cardiac surgery. PentaLyte contains a lower molecular weight hydroxyethyl starch than Hextend, and is more quickly metabolized. PentaLyte is designed for use when short lasting volume expansion is desirable. Our ability to complete clinical studies of PentaLyte will depend on our cash resources and the costs involved, which are not presently determinable.

#### Products for Hypothermic Surgery and Tissue Preservation

We have devoted a portion of our research and development efforts and funds on the development of a plasma volume replacement solution for use in hypothermic surgery, and a solution intended to permit the long term storage of tissues and potentially entire organs at very cold temperatures.

During open-heart surgery and surgical procedures for the treatment of certain cardiovascular conditions such as large aneurysms, cardiovascular abnormalities and damaged blood vessels in the brain, surgeons must temporarily interrupt the flow of blood through the body. Interruption of blood flow can be maintained only for short periods of time at normal body temperatures because many critical organs, particularly the brain, are quickly damaged by the resultant loss of oxygen. Surgeons are already using Hextend and a

variety of other solutions to carry out certain limited procedures involving shorter term (up to nearly one hour) arrest of brain and heart function at temperatures between 15o and 25o C. We had been developing HetaCool®, a plasma volume expander based on Hextend, to facilitate the cooling of a patient's body and maintaining body temperatures closer to the ice point for extended periods of time to facilitate complex, time consuming surgical procedures. We were also developing HetaFreeze® and other freeze-protective solutions to allow the extension of time during which organs and tissues can be stored for future transplant or surgical grafting.

Due to the considerable costs of subsequent product development for HetaCool® and HetaFreeze® and the relatively near-term opportunities we expect for our new products in the field of regenerative medicine, we plan to expend additional resources on research and development for HetaCool® and HetaFreeze® only if we are able to obtain funding targeted for those research programs or if we are able to enter into arrangements with co-developers able to finance additional product development.

#### The Market for Plasma Volume Expanders

Approximately 10,000,000 surgeries take place in the United States each year, and blood transfusions are required in approximately 3,000,000 of those cases. Transfusions are also required to treat patients suffering severe blood loss due to traumatic injury. Many more surgical and trauma cases do not require blood transfusions but do involve significant bleeding that can place the patient at risk of suffering from shock caused by the loss of fluid volume (hypovolemia) and physiological balance. Whole blood and packed red cells generally cannot be administered to a patient until the patient's blood has been typed and sufficient units of compatible blood or red cells can be located. Periodic shortages of supply of donated human blood are not uncommon, and rare blood types are often difficult to locate. The use of human blood products also poses the risk of exposing the patient to blood-borne diseases such as AIDS and hepatitis.

Due to the risks and cost of using human blood products, even when a sufficient supply of compatible blood is available, physicians treating patients suffering blood loss are generally not permitted to transfuse red blood cells until the patient's level of red blood cells has fallen to a level known as the "transfusion trigger." During the course of surgery, while blood volume is being lost, the patient is infused with plasma volume expanders to maintain adequate blood circulation. During the surgical procedure, red blood cells are not generally replaced until the patient has lost approximately 45% to 50% of his or her red blood cells, thus reaching the transfusion trigger at which point the transfusion of red blood cells may be required. After the transfusion of red blood cells, the patient may continue to experience blood volume loss, which will be replaced with plasma volume expanders. Even in those patients who do not require a transfusion, physicians routinely administer plasma volume expanders to maintain sufficient fluid volume to permit the available red blood cells to circulate throughout the body and to maintain the patient's physiological balance.

Several units of fluid replacement products are often administered during surgery. The number of units will vary depending upon the amount of blood loss and the kind of plasma volume expander administered. Crystalloid products must be used in larger volumes than colloid products such as Hextend.

#### Uses and Benefits of Hextend and PentaLyte

Hextend and PentaLyte have been formulated to maintain the patient's tissue and organ function by sustaining the patient's fluid volume and physiological balance. Both products are composed of a hydroxyethyl starch, electrolytes, sugar and lactate in an aqueous base. Hextend uses a high molecular weight hydroxyethyl starch (hetastarch) whereas PentaLyte uses a lower, molecular weight hydroxyethyl starch (pentastarch). The hetastarch is retained in the blood longer than the pentastarch, which may make Hextend the product of choice when a larger volume of plasma expander or blood replacement solution for low temperature surgery is needed, or where the patient's ability to restore his own blood proteins after surgery is compromised. PentaLyte, with pentastarch, would be eliminated from the blood faster than Hextend and might be used when less plasma expander is needed or where the patient is more capable of quickly restoring lost blood proteins. We believe that by testing and bringing these products to the market, we can increase our market share by providing the medical community with solutions to match patients' needs.

Certain clinical test results indicate that Hextend is effective at maintaining blood calcium levels when used to replace lost blood volume. Calcium can be a significant factor in regulating blood clotting and cardiac function. Clinical studies have also shown that Hextend maintains acid-base better than saline-based surgical fluids. We expect that PentaLyte will also be able to maintain blood calcium levels and acid-base balance based upon the fact that the electrolyte formulation of PentaLyte is identical to that of Hextend.

Albumin produced from human plasma is also used as plasma volume expander, but it is expensive and subject to supply shortages. Additionally, an FDA warning has cautioned physicians about the risk of administering albumin to seriously ill patients.

We have not attempted to synthesize potentially toxic and costly oxygen-carrying molecules such as hemoglobin because the loss of fluid volume and physiological balance may contribute as much to shock as the loss of the oxygen-carrying component of the blood. Surgical and trauma patients are routinely given supplemental oxygen and retain a substantial portion of their own red blood cells. Whole blood or packed red blood cells are generally not transfused during surgery or in trauma care until several units of plasma volume expanders have been administered and the patient's blood cell count has fallen to the transfusion trigger. Therefore, the lack of oxygen-carrying molecules in BioTime solutions should not pose a significant contraindication to use.

However, our scientists have conducted laboratory animal experiments in which they have shown that Hextend can be successfully used in conjunction with a hemoglobin-based oxygen carrier solution approved for veterinary purposes to completely replace the animal's circulating blood volume without any subsequent transfusion and without the use of supplemental oxygen. By diluting these oxygen carrier solutions, Hextend may reduce the potential toxicity and costs associated with the use of those products. Once such



solutions have received regulatory approval and become commercially available, this sort of protocol may prove valuable in markets in parts of the developing world where the blood supply is extremely unsafe. These applications may also be useful in combat where logistics make blood use impracticable.

#### Research and Development Strategy

A significant part of our business activities are devoted to research and development in both the plasma volume expander and stem cell segments of our business. During 2007 and 2008, we spent \$967,864 and \$1,706,214, respectively, on research and development. While we utilize our own proprietary technology in both our plasma volume expander and stem cell research and development programs, we presently rely to a significant extent upon technology licensed from others in our stem cell research and development efforts. See “Licensed Stem Cell Technology and Stem Cell Product Development Agreements.”

#### Stem Cell Research Products

Human embryonic stem cells are capable of becoming all of the thousands of different cell types in the body. Since embryonic stem cells can now be derived in a noncontroversial manner, they are increasingly likely to be utilized in a wide array of future therapies to restore the function of organs damaged by degenerative diseases such as heart failure, stroke, and diabetes.

We are focusing our current efforts in the regenerative medicine field on the development and sale of advanced human stem cell products and technology that can be used by researchers at universities and other institutions, at companies in the bioscience and biopharmaceutical industries, and at other companies that provide research products to companies in those industries. By focusing our resources on products and technology that will be used by researchers and drug developers at larger institutions and corporations, we believe that we will be able to commercialize products more quickly, using less capital, than developing therapeutic products ourselves. We may also attempt to develop our own human stem cell products for diagnostic and therapeutic uses in the future, if we believe that we have sufficient resources to do so or if we can do so in collaboration with other companies or institutions.

We have obtained the rights to use and market stem cell lines developed by other companies. We believe that obtaining rights to these cell lines has given us a “jump start” in assembling an array of products for stem cell research. Our plan is to produce these cells in commercial quantities and offer them for sale to researchers. We may also derive new stem cell lines and we are working on the development of new products derived from human stem cells, such as ESpy™ cell lines, which will be derivatives of hES cells that send beacons of light in response to the activation of particular genes.

We are also working to develop new growth and differentiation factors that will permit researchers to manufacture specific cell types from embryonic stem cells, and purification tools useful to researchers in quality control of products for regenerative medicine.

## Licensing

### Hospira

Hospira has the exclusive right to manufacture and sell Hextend in the United States, Canada, Latin America and Australia under a license agreement with us. Hospira is presently marketing Hextend in the United States. Hospira's license applies to all therapeutic uses other than those involving hypothermic surgery where the patient's body temperature is lower than 12°C ("Hypothermic Use"), or replacement of substantially all of a patient's circulating blood volume ("Total Body Washout").

Hospira pays us a royalty on total annual net sales of Hextend. The royalty rate is 5% plus an additional .22% for each \$1,000,000 of annual net sales, up to a maximum royalty rate of 36%. The royalty rate for each year is applied on a total net sales basis. Hospira's obligation to pay royalties on sales of Hextend will expire on a country by country basis when all patents protecting Hextend in the applicable country expire and any third party obtains certain regulatory approvals to market a generic equivalent product in that country. The relevant composition patents begin to expire in 2014 and the relevant methods of use patents expire in 2019.

We have the right to convert Hospira's exclusive license to a non-exclusive license or to terminate the license outright if certain minimum sales and royalty payments are not met. In order to terminate the license outright, we would pay a termination fee in an amount ranging from the milestone payments we received to an amount equal to three times prior year net sales, depending upon when termination occurs. Hospira has agreed to manufacture Hextend for sale by us in the event that the exclusive license is terminated.

Hospira has certain rights to acquire additional licenses to manufacture and sell our other plasma expander products in their market territory. If Hospira exercises these rights to acquire a license to sell such products for uses other than Hypothermic Surgery or Total Body Washout, in addition to paying royalties, Hospira will be obligated to pay a license fee based upon our direct and indirect research, development and other costs allocable to the new product. If Hospira desires to acquire a license to sell any of our products for use in Hypothermic Surgery or Total Body Washout, the license fees and other terms of the license will be subject to negotiation between the parties. For the purpose of determining the applicable royalty rates, net sales of any such new products licensed by Hospira will be aggregated with sales of Hextend. If Hospira does not exercise its right to acquire a new product license, we may manufacture and sell the product ourselves or we may license others to do so.

The foregoing description of the Hospira license is a summary only and is qualified in all respects by reference to the full text of the Hospira license agreement.

## CJ

CJ markets Hextend in South Korea under an exclusive license from us. CJ paid us a license fee to acquire their right to market Hextend. CJ also pays us a royalty on sales of Hextend. The royalty will range from \$1.30 to \$2.60 per 500 ml unit of product sold, depending upon the price approved by Korea's National Health Insurance. CJ is also responsible for obtaining the regulatory approvals required to manufacture and market PentaLyte, including conducting any clinical trials that may be required, and will bear all related costs and expenses.

The foregoing description of the CJ license is a summary only and is qualified in all respects by reference to the full text of the CJ license agreement.

## Summit

We have entered into agreements with Summit to develop Hextend and PentaLyte in Japan, the People's Republic of China, and Taiwan. Summit has sublicensed to Maruishi the right to manufacture and market Hextend in Japan, and the right to manufacture and market Hextend and PentaLyte in China and Taiwan. The licenses do not include Hypothermic Use.

Under the sublicense, Maruishi will complete clinical trials required and obtain regulatory approval to market the licensed products. Summit will also participate in the clinical trial and regulatory approval process. A Phase III clinical trial using Hextend in surgery is being conducted in Japan and Summit plans to seek regulatory approval to market Hextend upon completion of that study. Maruishi will not be obligated to begin to seek regulatory approval of Hextend or PentaLyte in China and Taiwan earlier than six months after the results of the Phase II study of Hextend in Japan or our Phase II study of PentaLyte in the United States are made available to them, or March 2009, whichever is later.

The revenues from licensing fees, royalties, and net sales, and any other payments made for co-development, manufacturing, or marketing rights to Hextend and PentaLyte in Japan will be shared between BioTime and Summit as follows: 40% to us and 60% to Summit. Net sales means the gross revenues from the sale of a product, less rebates, discounts, returns, transportation costs, sales taxes and import/export duties.

Summit paid us fees for the right to co-develop Hextend and PentaLyte in Japan, and Summit has also paid us a share of a sublicense fee payment from Maruishi. Additional milestone payments of 100,000,000 yen each, of which BioTime will receive 40%, are payable by Maruishi to Summit when a new drug application for Hextend is filed in Japan and when the new drug application is approved. We will also be entitled to receive 40% of the royalties paid by Maruishi to Summit on sales in Japan. Royalties will range from 12% to 20% of net sales, depending upon the amount of Hextend sold. The royalty rates are subject to reduction if Summit does not complete its participation in the new drug application, or if Summit elects to co-market Hextend in Japan. However, if Summit sells Hextend, we will also be entitled to receive 40% of Summit's net sales revenues.

We will pay to Summit 8% of all net royalties that we receive from the sale of PentaLyte in the United States, plus 8% of any license fees that we receive in consideration of granting a license to develop, manufacture and market PentaLyte in the United States.

Net royalties means royalty payments received during a calendar year, minus the following costs and expenses incurred during such calendar year: (a) all taxes assessed (other than taxes determined with reference to our net income) and credits given or owed by us in connection with the receipt of royalties on the sale of PentaLyte in the United States, and (b) all fees and expenses payable by us to the United States Food and Drug Administration (directly or as a reimbursement of any licensee) with respect to PentaLyte.

Summit paid us a fee to acquire the China and Taiwan license. We also will be entitled to receive 50% of the royalties and milestone payments payable to Summit by its third-party sublicensee, Maruishi. Milestone payments of 20,000,000 yen are payable by Maruishi when the first new drug application for Hextend is filed and when the first clinical study of PentaLyte begins under the sublicense. An additional milestone payment of 30,000,000 yen is payable by Maruishi when the first new drug application for PentaLyte is filed under the sublicense.

The foregoing description of the Summit agreement is a summary only and is qualified in all respects by reference to the full text of the Summit agreements.

#### Manufacturing Arrangements

Hospira manufactures Hextend for use in the North American market, and CJ manufactures Hextend for use in South Korea. NPBI International, BV, a Netherlands company (“NPBI”), has manufactured batches of Hextend for our use in seeking regulatory approval in Europe. Hospira, CJ, and NPBI have the facilities to manufacture Hextend and other BioTime products in commercial quantities. If Hospira and CJ choose not to manufacture and market other BioTime products, and if NPBI declines to manufacture BioTime products on a commercial basis, other manufacturers will have to be found that would be willing to manufacture products for us or any licensee of our products.

#### Facilities Required – Plasma Volume Expanders

Any products that are used in clinical trials for regulatory approval in the United States or abroad, or that are approved by the FDA or foreign regulatory authorities for marketing, have to be manufactured according to “good manufacturing practices” (“GMP”) at a facility that has passed regulatory inspection. In addition, products that are approved for sale will have to be manufactured in commercial quantities, and with sufficient stability to withstand the distribution process, and in compliance with such domestic and foreign regulatory requirements as may be applicable. The active ingredients and component parts of the products must be medical grade or themselves manufactured according to FDA-acceptable “good manufacturing practices.”

We do not have facilities to manufacture our plasma volume expander products in commercial quantities, or under GMP. Acquiring a manufacturing facility would involve significant expenditure of time and money for design and construction of the facility, purchasing equipment, hiring and training a production staff, purchasing raw material and attaining an efficient level of production. Although we have not determined the cost of constructing

production facilities that meet FDA requirements, we expect that the cost would be substantial, and that we would need to raise additional capital in the future for that purpose. To avoid the incurrence of those expenses and delays, we are relying on Hospira and CJ for the production of Hextend, but there can be no assurance that satisfactory arrangements will be made for any new products that we may develop.

#### Facilities Required—Stem Cell Products

We recently acquired, under a sublease, an 11,000 square foot tissue culture facility in Alameda, California. The facility is GMP capable and has previously been certified as Class 1000 and Class 10,000 laboratory space, and includes cell culture and manufacturing equipment previously validated for use in GMP manufacture of cell based products. Our subsidiary, Embryome Sciences will use the facility for the production of embryonic progenitor cells, progenitor cell lines, and products derived from those embryonic progenitor cell lines.

#### Raw Materials

Although most ingredients in the products we are developing are readily obtainable from multiple sources, we know of only a few manufacturers of the hydroxyethyl starches that serve as the primary drug substance in Hextend and PentaLyte. Hospira and CJ presently have a source of supply of the hydroxyethyl starch used in Hextend and PentaLyte and have agreed to maintain a supply sufficient to meet market demand for Hextend in the countries in which they market the product. We believe that we will be able to obtain a sufficient supply of starch for our needs in the foreseeable future, although we do not have supply agreements in place. If for any reason a sufficient supply of hydroxyethyl starch could not be obtained, we or a licensee would have to acquire a manufacturing facility and the technology to produce the hydroxyethyl starch according to good manufacturing practices. We would have to raise additional capital to participate in the development and acquisition of the necessary production technology and facilities, which may not be feasible. The use of a different hydroxyethyl starch could require us or a licensee to conduct additional clinical trials for FDA or foreign regulatory approval to market Hextend with the new starch.

If arrangements cannot be made for a source of supply of hydroxyethyl starch, we would have to reformulate our solutions to use one or more other starches that are more readily available. In order to reformulate our products, we would have to perform new laboratory and clinical testing to determine whether the alternative starches could be used in a safe and effective synthetic plasma volume expander, low temperature blood substitute or organ preservation solution. We or our licensees would also have to obtain new regulatory approvals from the FDA and foreign regulatory agencies to market the reformulated product. If needed, such testing and regulatory approvals would require the incurrence of substantial cost and delay, and there is no certainty that any such testing would demonstrate that an alternative ingredient, even if chemically similar to the one currently used, would be safe or effective.

## Marketing

### Stem Cell Research Products

In addition to our work with plasma volume expanders, we plan to focus on near-term commercialization opportunities in regenerative medicine. We believe that the development of products for use in stem cell research provides an opportunity to commercialize products more quickly, using less capital, than developing therapeutic products requiring regulatory (FDA) approval. Our plan is to market to companies and academic researchers in the stem cell industry some of the tools they need to attain their goals. We plan to directly market products ourselves, as well as pursuing third party agreements to exclusively market in some instances, or co-market our stem cell research products.

Our ability to commercialize our planned stem cell research products is dependent upon the success of our research and development program, and our ability to obtain the capital needed for the financing of that program. We may also enter into collaborative product development and marketing arrangements with other companies in the stem cell industry if such opportunities arise on terms acceptable to us.

The market for our stem cell products may be impacted by the amount of Federal funding available for research in the development of stem cell therapies.

### Plasma Volume Expanders

Hextend is being distributed in the United States by Hospira and in South Korea by CJ under exclusive licenses from us. Hospira also has the right to obtain licenses to manufacture and sell other BioTime products. We have granted Hospira the right to market Hextend in Latin America and Australia, we have granted CJ the right to market PentaLyte in South Korea, and we have licensed to Summit the right to market Hextend and PentaLyte in Japan, China and Taiwan, but our licensees will have to first obtain the foreign regulatory approvals required to sell our product in those countries.

Because Hextend is a surgical product, sales efforts must be directed to physicians and hospitals. The Hextend marketing strategy is designed to reach its target customer base through sales calls and an advertising campaign focused on the use of a plasma-like substance to replace lost blood volume and the ability of Hextend to support vital physiological processes.

Hextend competes with other products used to treat or prevent hypovolemia, including albumin, generic 6% hetastarch solutions, and crystalloid solutions. The competing products have been commonly used in surgery and trauma care for many years, and in order to sell Hextend, physicians must be convinced to change their product loyalties. Although albumin is expensive, crystalloid solutions and generic 6% hetastarch solutions sell at low prices. In order to compete with other products, particularly those that sell at lower prices, Hextend will have to be recognized as providing medically significant advantages.

The FDA has required the manufacturers of 6% hetastarch in saline solutions to change their product labeling by adding a warning stating that those products are not recommended for use as a cardiac bypass prime solution, or while the patient is on cardiopulmonary bypass, or in the immediate period after the pump has been disconnected. We have not been required to add that warning to the labeling of Hextend. An article discussing this issue entitled “6% Hetastarch in Saline Linked to Excessive Bleeding in Bypass Surgery” appeared in the December 2002 edition of Anesthesiology News. We understand that a number of hospitals have switched from 6% hetastarch in saline to Hextend due to these concerns.

As part of the marketing program, a number of studies have been conducted that show the advantages of receiving Hextend and other BioTime products during surgery. As these studies are completed, the results are presented at medical conferences and articles written for publication in medical journals. We are also aware of independent studies using Hextend that are being conducted by physicians and hospitals who may publish their findings in medical journals or report their findings at medical conferences. The outcome of future medical studies and timing of the publication or presentation of the results could have an effect on Hextend sales.

#### Patents and Trade Secrets

We currently hold 25 issued United States patents having composition and methods of use claims covering our proprietary solutions, including Hextend and PentaLyte. The most recent U.S. patents were issued during 2002. Some of our allowed claims in the United States, which include the composition and methods of use of Hextend and PentaLyte, are expected to remain in force until 2014 in the case of the composition patents and 2019 in the case of the methods of use patents. Patents covering certain of our solutions have also been issued in several countries of the European Union, Australia, Israel, Russia, South Africa, South Korea, Japan, China, Hong Kong, Taiwan and Singapore, and we have filed patent applications in other foreign countries for certain products, including Hextend, HetaCool, and PentaLyte. Certain device patents describing our hyperbaric (high pressure oxygen) chamber, and proprietary microcannula (a surgical tool) have also been issued in the United States and overseas, both of which - although only used in research so far - have possible indications in clinical medicine.

There is no assurance that any additional patents will be issued. There is also the risk that any patents that we hold or later obtain could be challenged by third parties and declared invalid or infringing of third party claims. Further, the enforcement of patent rights often requires litigation against third party infringers, and such litigation can be costly to pursue.

In addition to patents, we rely on trade secrets, know-how and continuing technological advancement to maintain our competitive position. We have entered into intellectual property, invention and non-disclosure agreements with our employees and it is our practice to enter into confidentiality agreements with our consultants. There can be no assurance, however, that these measures will prevent the unauthorized disclosure or use of our trade secrets and know-how, or that others may not independently develop similar trade secrets and know-how or obtain access to our trade secrets, know-how or proprietary technology.

## Competition

### Plasma Volume Expanders

Our plasma volume expander solutions will compete with products currently used to treat or prevent hypovolemia, including albumin, other colloid solutions, and crystalloid solutions presently manufactured by established pharmaceutical companies, and with human blood products. Some of these products, in particular crystalloid solutions, are commonly used in surgery and trauma care and sell at low prices. In order to compete with other products, particularly those that sell at lower prices, our products will have to be recognized as providing medically significant advantages. Like Hextend, the competing products are being manufactured and marketed by established pharmaceutical companies that have large research facilities, technical staffs and financial and marketing resources. B.Braun presently markets Hespan, an artificial plasma volume expander containing 6% hetastarch in saline solution. Hospira and Baxter International manufacture and sell a generic equivalent of Hespan. As a result of the introduction of generic plasma expanders and new proprietary products, competition in the plasma expander market has intensified and wholesale prices have declined. Hospira, which markets Hextend in the United States, is also the leading seller of generic 6% hetastarch in saline solution and recently obtained the right to sell Voluven®, a plasma volume expander containing a 6% low molecular weight hydroxyethyl starch in saline solution. Sanofi-Aventis, Baxter International, and Alpha Therapeutics sell albumin, and Hospira, Baxter International, and B.Braun sell crystalloid solutions.

To compete with new and existing plasma expanders, we have developed products that contain constituents that may prevent or reduce the physiological imbalances, bleeding, fluid overload, edema, poor oxygenation, and organ failure that can occur when competing products are used. To compete with existing organ preservation solutions, we have developed solutions that can be used to preserve all organs simultaneously and for long periods of time.

A number of other companies are known to be developing hemoglobin and synthetic red blood cell substitutes and technologies. Our products have been developed for use either before red blood cells are needed or in conjunction with the use of red blood cells. In contrast, hemoglobin and other red blood cell substitute products are designed to remedy hypoxia and similar conditions that may result from the loss of oxygen-carrying red blood cells. Those products would not necessarily compete with our products unless the oxygenating molecules were included in solutions that could replace fluid volume and prevent or reduce the physiological imbalances as effectively as our products. Generally, red blood cell substitutes are more expensive to produce and potentially more toxic than Hextend and PentaLyte.

The competition we face is likely to intensify further as new products and technologies reach the market. Superior new products are likely to sell for higher prices and generate higher profit margins once acceptance by the medical community is achieved. Those companies that are successful in introducing new products and technologies to the market first may gain significant economic advantages over their competitors in the establishment of a customer base and track record for the performance of their products and technologies. Such companies will also benefit from revenues from sales that could be used to strengthen their research and



development, production, and marketing resources. All companies engaged in the medical products industry face the risk of obsolescence of their products and technologies as more advanced or cost effective products and technologies are developed by their competitors. As the industry matures, companies will compete based upon the performance and cost effectiveness of their products.

#### Products for Stem Cell Research

The stem cell industry is characterized by rapidly evolving technology and intense competition. Our competitors include major multinational pharmaceutical companies, specialty biotechnology companies, and chemical and medical products companies operating in the fields of regenerative medicine, cell therapy, tissue engineering, and tissue regeneration. Many of these companies are well-established and possess technical, research and development, financial, and sales and marketing resources significantly greater than ours. In addition, certain smaller biotech companies have formed strategic collaborations, partnerships, and other types of joint ventures with larger, well established industry competitors that afford these companies' potential research and development and commercialization advantages. Academic institutions, governmental agencies, and other public and private research organizations are also conducting and financing research activities which may produce products directly competitive to those we are developing.

We believe that some of our competitors are trying to develop stem and progenitor cell-based technologies which may compete with our potential stem cell products based on efficacy, safety, cost, and intellectual property positions.

We may also face competition from companies that have filed patent applications relating to the cloning or differentiation of stem cells. We may be required to seek licenses from these competitors in order to commercialize certain of our proposed products, and such licenses may not be granted.

#### Government Regulation

##### FDA and Foreign Regulation

The FDA and foreign regulatory authorities will regulate our proposed products as drugs, biologicals, or medical devices, depending upon such factors as the use to which the product will be put, the chemical composition and the interaction of the product on the human body. In the United States, products that are intended to be introduced into the body, such as blood substitute solutions for low temperature surgery and plasma expanders, will be regulated as drugs and will be reviewed by the FDA staff responsible for evaluating biologicals.

Our domestic human drug products will be subject to rigorous FDA review and approval procedures. After testing in animals, an Investigational New Drug Application (IND) must be filed with the FDA to obtain authorization for human testing. Extensive clinical testing, which is generally done in three phases, must then be undertaken at a hospital or medical center to demonstrate optimal use, safety and efficacy of each product in humans. Each clinical study is

conducted under the auspices of an independent Institutional Review Board (“IRB”). The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution. The time and expense required to perform this clinical testing can far exceed the time and expense of the research and development initially required to create the product. No action can be taken to market any therapeutic product in the United States until an appropriate New Drug Application (“NDA”) has been approved by the FDA. Even after initial FDA approval has been obtained, further studies may be required to provide additional data on safety or to gain approval for the use of a product as a treatment for clinical indications other than those initially targeted. In addition, use of these products during testing and after marketing could reveal side effects that could delay, impede, or prevent FDA marketing approval, resulting in a FDA-ordered product recall, or in FDA-imposed limitations on permissible uses.

The FDA regulates the manufacturing process of pharmaceutical products, requiring that they be produced in compliance with “good manufacturing practices.” See “Manufacturing.” The FDA also regulates the content of advertisements used to market pharmaceutical products. Generally, claims made in advertisements concerning the safety and efficacy of a product, or any advantages of a product over another product, must be supported by clinical data filed as part of an NDA or an amendment to an NDA, and statements regarding the use of a product must be consistent with the FDA approved labeling and dosage information for that product.

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from country to country. Even if FDA approval has been obtained, approval of a product by comparable regulatory authorities of foreign countries must be obtained prior to the commencement of marketing the product in those countries. The time required to obtain such approval may be longer or shorter than that required for FDA approval.

The United States government and its agencies have until recently refused to fund research which involves the use of human embryonic tissue. President Bush issued Executive Orders on August 9, 2001 and June 20, 2007 that permitting federal funding of research on human embryonic stem cells using only the limited number of embryonic stem cell lines that had already been created as of August 9, 2001. On March 9, 2009, President Obama rescinded President Bush’s August 9, 2001 and June 20, 2007 Executive Orders and instructed the National Institutes of Health to review existing guidance on human stem cell research, including provisions establishing appropriate safeguards, and to issue new guidance on research consistent with President’s new Executive Order and existing law. The White House has announced that the NIH is expected to publish new guidelines for public comment and to implement final new guidelines within 120 days of the March 9, 2009 Executive Order.

In addition to President Obama’s Executive Order, a bipartisan bill has been introduced in the United States Senate that would allow Federal funding of hES research. The Senate bill is identical to one that was previously approved by both Houses of Congress but vetoed by President Bush. The Senate Bill provides that human embryonic stem cells will be eligible for use in research conducted or supported by federal funding if the cells meet each of the following guidelines: (1) the stem cells were derived from human embryos that have been donated from in

vitro fertilization clinics, were created for the purposes of fertility treatment, and were in excess of the clinical need of the individuals seeking such treatment; (2) prior to the consideration of embryo donation and through consultation with the individuals seeking fertility treatment, it was determined that the embryos would never be implanted in a woman and would otherwise be discarded, and (3) the individuals seeking fertility treatment donated the embryos with written informed consent and without receiving any financial or other inducements to make the donation. The Senate Bill authorizes the NIH to adopt further guidelines consistent with the legislation.

#### California State Regulations

The state of California has adopted legislation and regulations that requires institutions that conduct stem cell research to notify, and in certain cases obtain approval from, a Stem Cell Research Oversight Committee (“SCRO Committee”) before conducting the research. Advanced notice but not approval of the SCRO Committee is required in the case of in vitro research that does not derive new stem cell lines. Research that derives new stem cell lines, or that involves fertilized human oocytes or blastocysts, or that involves clinical trials or the introduction of stem cells into humans, or that involves introducing stem cells into animals, requires advanced approval by the SCRO Committee. Clinical trials may also entail approvals from an institutional review board (IRB) at the medical center at which the study is conducted, and animal studies may require approval by an Institutional Animal Care and Use Committee.

All human pluripotent stem cell lines that will be used in Embryome Sciences research must be acceptably derived. To be acceptably derived, the pluripotent stem cell line must have either:

- Been listed on the National Institutes of Health Human Embryonic Stem Cell Registry, or
  - Been deposited in the United Kingdom Stem Cell Bank, or
- Been derived by, or approved for use by, a licensee of the United Kingdom Human Fertilisation and Embryology Authority, or
- Been derived in accordance with the Canadian Institutes of Health Research Guidelines for Human Stem Cell Research under an application approved by the National Stem Cell Oversight Committee, or
  - Been derived under the following conditions:
    - (a) Donors of gametes, embryos, somatic cells or human tissue gave voluntary and informed consent.
    - (b) Donors of gametes, embryos, somatic cells or human tissue did not receive valuable consideration. This provision does not prohibit reimbursement for permissible expenses as determined by an IRB.

(c) A person may not knowingly, for valuable consideration, purchase or sell gametes, embryos, somatic cells, or human tissue for research purposes. This provision does not prohibit reimbursement for permissible expenditures as determined by an IRB or Committee. "Permissible expenditures" means necessary and reasonable costs directly incurred as a result of persons, not including human subjects or donors, providing gametes, embryos, somatic cells, or human tissue for research purposes. Permissible expenditures may include but are not limited to costs associated with processing, quality control, storage, or transportation of materials.

(d) Donation of gametes, embryos, somatic cells or human tissue was overseen by an IRB (or, in the case of foreign sources, an IRB-equivalent).

(e) Individuals who consented to donate stored gametes, embryos, somatic cells or human tissue were not reimbursed for the cost of storage prior to the decision to donate.

California regulations also require that certain records be maintained with respect to stem cell research and the materials used, including:

- A registry of all human stem cell research conducted, and the source(s) of funding for this research.
- A registry of human pluripotent stem cell lines derived or imported, to include, but not necessarily limited to:
  - (a) The methods utilized to characterize and screen the materials for safety;
  - (b) The conditions under which the materials have been maintained and stored;
  - (c) A record of every gamete donation, somatic cell donation, embryo donation, or product of somatic cell nuclear transfer that has been donated, created, or used.
  - (d) A record of each review and approval conducted by the SCRO Committee.

#### California Proposition 71

In November 2004, California State Proposition 71 ("Prop. 71"), the California Stem Cell Research and Cures Initiative, was adopted by state-wide referendum. Prop. 71 provides for a state-sponsored program designed to encourage stem cell research in the State of California, and to finance such research with State funds totaling approximately \$295 million annually for 10 years beginning in 2005. This initiative creates the California Institute for Regenerative Medicine, which will provide grants, primarily but not exclusively, to academic institutions to advance both hES cell research and adult stem cell research. As stated above, hES cell research is now one of our primary areas of focus.

We expect to benefit from collaborations with academic and other institutions eligible for Prop. 71 funding for research in the use of hES cells for various diseases and conditions.

#### Employees

As of December 31, 2008, we employed eleven persons on a full-time basis and one person on a part-time basis. Five full-time employees hold Ph.D. Degrees in one or more fields of science.

#### Item 2. Properties

Our offices and laboratory facilities are located at 1301 Harbor Bay Parkway, in Alameda, California where we occupy approximately 11,000 square feet of office and research laboratory space. The facility is GMP capable and has previously been certified as Class 1000 and Class 10,000 laboratory space, and includes cell culture and manufacturing equipment previously validated for use in GMP manufacture of cell based products. We will use the facility for the production of embryonic progenitor cells, progenitor cell lines, and products derived from those embryonic progenitor cell lines.

This facility is occupied under a sublease. Base monthly rent is \$22,000 during 2008, and will be \$22,600 during 2009, and \$23,340 during 2010. In addition to base rent, we pay a pro rata share of real property taxes and certain costs related to the operation and maintenance of the building in which the subleased premises are located.

We also lease approximately 5,244 square feet of office and laboratory space in Heritage Square in Emeryville, California under a lease that will expire on May 31, 2010, with a five year extension option. This property was our principal office and laboratory facility until we moved to our present Alameda facility. We plan to sublease this property if a suitable subtenant can be located. We presently pay monthly rent, including other charges, in the amount of \$15,551. Our rent will increase by 3% each year during the initial five year term. In addition to rent, we pay our pro rata share of operating expenses and real estate taxes for the building in which our space is located or for the Heritage Square project as a whole, as applicable, based upon the ratio that the number of square feet we rent bears to the total number of square feet in the building or project.

#### Item 3. Legal Proceedings

We are not presently involved in any material litigation or proceedings, and to our knowledge no such litigation or proceedings are contemplated.

#### Item 4. Submission of Matters to a Vote of Security Holders

None.

## PART II

## Item 5. Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities

BioTime common shares were traded on the American Stock Exchange from August 31, 1999 until July 14, 2005, and have been quoted on the OTC Bulletin Board under the symbol BTIM since July 15, 2005.

The following table sets forth the range of high and low sale or bid prices for the common shares for the fiscal years ended December 31, 2007 and 2008 based on transaction data as reported by the OTC Bulletin Board:

| Quarter Ended      | High | Low  |
|--------------------|------|------|
| March 31, 2007     | 0.75 | 0.25 |
| June 30, 2007      | 0.75 | 0.37 |
| September 30, 2007 | 0.50 | 0.27 |
| December 31, 2007  | 0.69 | 0.26 |
| March 31, 2008     | 0.44 | 0.25 |
| June 30, 2008      | 0.62 | 0.29 |
| September 30, 2008 | 1.87 | 0.48 |
| December 31, 2008  | 2.43 | 0.70 |

Over-the-counter market quotations may reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not necessarily represent actual transactions.

As of March 10, 2009, there were 6,676 holders of the common shares.

BioTime has paid no dividends on its common shares since its inception and does not plan to pay dividends on its common shares in the foreseeable future. We are also prohibited from paying dividends under the terms of a Revolving Line of Credit Agreement.

The following table shows certain information concerning the options and warrants outstanding and available for issuance under all of our compensation plans and agreements as of December 31, 2008.

| Plan Category   | Number of Shares to be Issued Upon Exercise of Outstanding Options, Warrants, and Rights | Weighted Average Exercise Price of the Outstanding Options, Warrants, and Rights | Number of Shares Remaining Available for Future Issuance Under Equity Compensation Plans |
|---|--|--|--|
| Equity Compensation Plans Approved by Shareholders      | 1,986,302  | \$1.30   | 73,198   |
| Equity Compensation Plans Not Approved By Shareholders* | 2,048,697  | \$0.92   | 697,970  |

\*We have granted 1,302,030 stock options to certain officers subject to shareholder approval of an amendment of our 2002 Employee Stock Option Plan which made an additional 2,000,000 common shares available under the Plan. We intend to submit that amendment to our shareholders for approval at our next annual meeting. We have granted 246,667 warrants to certain consultants for providing services to us, and we have granted 250,000 warrants to an investment banker for arranging a portion of the loans under our Revolving Line of Credit Agreement.

During the period from November 19, 2008 through December 31, 2008, we granted 15,906 common shares to new lenders who provided additional credit to us under the Revolving Line of Credit, and we issued 118,750 warrants to purchase common shares to a consultant for services in obtaining financing under the Revolving Line of Credit. These shares and warrants were issued without registration under the Securities Act of 1933, as amended, in reliance upon the exemption provided by Section 4(2) thereunder.

Item 6. Selected Financial Data

Not applicable.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Plasma Volume Expander Products

Our operating revenues have been derived almost exclusively from royalties and licensing fees related to our plasma volume expander products, primarily Hextend. Hextend has become the standard plasma volume expander at a number of prominent teaching hospitals and leading medical centers and is part of the Tactical Combat Casualty Care protocol. We believe that as Hextend use proliferates within the leading U.S. hospitals, other smaller hospitals will follow their lead, contributing to sales growth.

Under our license agreements, Hospira and CJ will report sales of Hextend and pay us the royalties and license fees due on account of such sales after the end of each calendar quarter. We recognize such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place.

Royalties on sales of Hextend that occurred during the fourth quarter of 2007 through the third quarter of 2008 are reflected in our financial statements for the year ended December 31, 2008. We received \$1,203,453 in royalties from Hextend sales by Hospira during 2008. This represents an increase of 55% from \$776,679 in royalties from Hospira on Hextend sales in 2007. The increase is largely due to an increase in both sales to the military and sales to hospitals, which were augmented by an increase in the average unit sales price to hospitals. In addition, we received royalties from CJ in the amount of \$74,796 for the period ended December 31, 2008 and \$46,952 for the period ended December 31, 2007 which were included in license fees during the financial statements for the periods ended December 31, 2008 and 2007, respectively.

We received royalties of \$219,913 on sales of Hextend by Hospira and CJ that occurred during the fourth quarter of 2008. These royalties will be reflected in our financial statements for the first quarter of 2009. This represents a 32% decrease from royalties of \$323,581 received during the same period last year. The decrease is generally due to a decrease in both sales to the military and sales to hospitals, despite an increase in the average unit sales price to hospitals.

During the year ended December 31, 2006, we received \$500,000 from Summit for the right to co-develop Hextend and PentaLyte in Japan, China, and Taiwan. A portion of the cash payment will be a partial reimbursement of BioTime's development costs of Hextend and a portion will be a partial reimbursement of BioTime's development costs of PentaLyte. This payment is reflected on our balance sheet as deferred revenue. See Note 4 to financial statements for further discussion of the appropriate accounting.



## Stem Cells and Products for Regenerative Medicine Research

We are conducting our stem cell business through our new, wholly-owned subsidiary, Embryome Sciences. We plan to focus our initial efforts in the regenerative medicine field on the development and sale of advanced human stem cell products and technology for diagnostic, therapeutic and research use. Our initial marketing efforts will be directed to researchers at universities and other institutions, to companies in the bioscience and biopharmaceutical industries, and to other companies that provide research products to companies in those industries.

Embryome Sciences has already introduced its first stem cell research products, and is implementing plans to develop additional research products over the next two years. Our first products include a relational database, available at our website [embryome.com](http://embryome.com), that will permit researchers to chart the cell lineages of human development, the genes expressed in those cell types, and antigens present on the cell surface of those cells that can be used in purification. This database will provide the first detailed map of the embryo, thereby aiding researchers in navigating the complexities of human development and in identifying the many hundreds of cell types coming from embryonic stem cells.

Embryome Sciences is also now marketing cell growth media called ESpan™ in collaboration with Lifeline. These growth media are designed for the growth of human embryonic progenitor cells. Additional new products that Embryome Sciences has targeted for development are ESpy™ cell lines, which will be derivatives of hES cells that send beacons of light in response to the activation of particular genes. The ESpy™ cell lines will be developed in conjunction with Lifeline using the ACTCellerate technology licensed from ACT and other technology sublicensed from Lifeline. Embryome Sciences also plans to bring to market other new growth and differentiation factors that will permit researchers to manufacture specific cell types from embryonic stem cells, and purification tools useful to researchers in quality control of products for regenerative medicine. As new products are developed, they will become available for purchase on [embryome.com](http://embryome.com).

Since we are in the process of launching our first products for stem cell research, we cannot predict the amount of revenue that the new products we offer might generate. We did not receive significant revenues from stem cell product sales during 2008.

## Results of Operations

### Year Ended December 31, 2008 and Year Ended December 31, 2007

For the year ended December 31, 2008, we recognized \$1,203,453 of royalty revenues on the sale of Hextend by Hospira, compared with \$776,679 recognized for the year ended December 31, 2007. This 55% increase in royalties is attributable to an increase in Hextend sales. The increase is largely due to an increase in both sales to the military and sales to hospitals, which were augmented by an increase in the average unit sales price to hospitals.

Under our License Agreement, Hospira reports sales of Hextend and pays us the royalties and license fees due on account of such sales within 90 days after the end of each calendar quarter. We recognize such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as we do not have sufficient sales history to accurately predict quarterly sales. For example, royalties on sales made during the fourth quarter of 2008 will not be recognized until the first quarter of fiscal year 2009.

We recognized \$277,999 and \$255,549 of license fees from CJ and Summit during 2008 and 2007, respectively. Full recognition of license fees other than royalties from CJ has been deferred, and is being recognized over the life of the contract, which has been estimated to last until approximately 2019 based on the current expected life of the governing patent covering our products in Korea and Japan. Royalties of \$74,796 and \$46,952 from Hextend sales by CJ were included in license fees during 2008 and 2007, respectively.

Research and development expenses increased to \$1,706,214 for the year ended December 31, 2008, from \$967,864 for the year ended December 31, 2007. The increase is primarily attributable to our entry into the stem cell field, and includes increases of approximately \$382,000 in salaries and other payroll related expenses charged to research and development, \$271,000 in rent charged to research and development, \$53,000 in laboratory expense, \$128,000 in laboratory supplies, offset by decrease of approximately \$102,000 in outside research expenses. Research and development expenses include laboratory study expenses, salaries, rent, manufacturing of solution for trials, and consultants' fees.

General and administrative expenses increased to \$2,620,210 for the year ended December 31, 2008 from \$1,300,630 for the year ended December 31, 2007. This change reflects an increase of approximately \$337,000 in general and administrative consulting expenses, \$379,000 in stock based compensation expenses, \$470,000 stock appreciation rights compensation expenses, \$68,000 in rent allocable to general and administration expenses, \$78,000 in travel and entertainment expenses, \$70,000 in legal expenses, \$50,000 in royalty expenses, \$38,000 in outside services expenses, \$32,000 in patent and license expenses, \$18,000 in salaries and other payroll related expenses, \$17,000 in office expenses, \$12,000 in depreciation expenses offset by decrease of approximately \$16,000 in accounting expenses. General and administrative expenses include salaries allocated to general and administrative accounts, scientific consulting fees, expenditures for patent costs, trademark expenses, insurance costs allocated to general and administrative expenses, stock exchange-related costs, depreciation expense, shipping expenses, marketing costs, and other miscellaneous expenses. Stock based compensation increased during 2008 in large part due to our common shares trading at prices higher than the prices that prevailed during 2007.

#### Interest and Other Income (Expense)

Our interest expense increased by approximately \$733,000 during 2008 primarily due to interest incurred on our lines of credit (See Note 3) and approximately \$330,000 relating to the beneficial conversion of the line of credit debt and accrued interest into common stock.

For the year ended December 31, 2008, other income decreased to \$7,518 from \$16,926 for the year ended December 31, 2007. The difference is chiefly attributable to decrease by approximately \$5,700 in interest income due to lower cash balances and decrease by approximately \$5,000 in microcannula sales.

## Taxes

At December 31, 2008 we had a cumulative net operating loss carryforward of approximately \$46,580,000 for federal income tax purposes and \$15,818,000 for state income tax purposes. Our effective tax rate differs from the statutory rate because we have recorded a 100% valuation allowance against our deferred tax assets, as we do not consider realization to be more likely than not.

## Liquidity and Capital Resources

We need to obtain additional debt or equity capital in order to finance our operations. Since inception, we have primarily financed our operations through the sale of equity securities, licensing fees, royalties on product sales by our licensees, and borrowings. The amount of license fees and royalties that may be earned through the licensing and sale of our products and technology, the timing of the receipt of license fee payments, and the future availability and terms of equity financing, are uncertain. The unavailability or inadequacy of financing or revenues to meet future capital needs could force us to modify, curtail, delay or suspend some or all aspects of our planned operations. Sales of additional equity securities could result in the dilution of the interests of present shareholders.

During 2008 we received approximately \$1,300,000 of cash in our operations. Our sources of that cash were approximately \$1,200,000 of royalty revenues from Hospira and approximately \$75,000 from CJ. During the same period our total research and development expenditures were approximately \$1,700,000 and our administrative expenditures were approximately \$2,600,000.

We have a Revolving Line of Credit Agreement (the "Credit Agreement") with certain private lenders that is collateralized by a security interest in our right to receive royalty and other payments under our license agreement with Hospira. The Credit Agreement was first implemented during 2006 and has been amended from time to time since then, including amendments that increased the amount of credit available to us. The Credit Agreement permits us to borrow up to \$3,500,000, and as of March 6, 2009, BioTime had outstanding Credit Agreement loans of \$3,330,000.

Current loans under the Credit Agreement bear interest at the rate of 12% per annum and will mature on April 15, 2009, at which time the outstanding principal balance of the loans plus accrued interest will be due and payable. Our ability to continue in operation depends on our obtaining a renewal of the Credit Agreement that will extend the maturity date of the loan and increase the amount of credit available to us.

The Credit Agreement lenders were given the right to exchange their line of credit promissory notes for our common shares and/or for common stock of our subsidiary, Embryome Sciences. The applicable price at which a lender's promissory note may be exchanged for our shares or Embryome Sciences shares is determined based upon the date the lender made their loan commitment and date on which the exchange takes place. Currently, lenders may exchange their notes for our common shares at prices ranging from \$1.25 to \$1.50 per share, or for Embryome Sciences shares at prices ranging from \$2.25 to \$2.50 per share. Prior to November 15, 2008 the notes could be exchanged for BioTime shares at a price of \$1.00 per share. As of November 17, 2008 certain lenders elected to exchange, in the aggregate, \$1,050,000 of principal and \$62,015 of accrued interest on their loans for 1,112,014 BioTime common shares. We have recorded the beneficial conversion feature charge of approximately \$330,000 which is included in the interest expense.

In consideration for making the additional credit available and for extending the maturity date of outstanding loans, we agreed to issue the lenders a number of common shares having an aggregate market value equal to six percent (6%) of the lender's loan commitment. As of March 6, 2009 we had issued a total of 107,353 common shares to lenders who received promissory notes maturing in April 2009.

In November 2008, Embryome Sciences borrowed \$275,000 from certain private lenders. As consideration for arranging the loans, we issued warrants to purchase up to 277,919 common shares. The warrants will be exercisable at a price of \$2.00 per share, and will expire on October 31, 2010 if not exercised prior to that date. The Embryome Sciences lenders subsequently joined as lenders under our Credit Agreement and accepted a promissory note from us in satisfaction of Embryome Sciences' loan obligation.

We also obtained a line of credit from American Express in August 2004, which allows for borrowings up to \$25,300. As of December 31, 2008, we had drawn \$21,700 against this line. See Note 3 to the condensed consolidated financial statements for additional information.

We also secured a line of credit from Advanta in November 2006, which allows for borrowings up to \$35,000. As of December 31, 2008, we had drawn the entire line of credit. See Note 3 to our consolidated financial statements for additional information.

As of December 31, 2008, the deferred debt discount was approximately \$243,000, which will be amortized over the remaining period of underlying outstanding debt.

We had no contractual obligations as of December 31, 2008, with the exception of a fixed, non-cancelable operating lease on our office and laboratory facilities in Alameda, California and in Emeryville, California. In April 2008, we entered into a sublease of office and research laboratory space in Alameda, California. We moved our headquarters from the Emeryville location to this new facility. The sublease expires on November 30, 2010. Base monthly rent will be \$22,600 during 2009, and \$23,339.80 during 2010. In addition to base rent, we pay a pro rata share of real property taxes and certain costs related to the operation and maintenance of the building in which the subleased premises are located. Under the Emeryville lease, we are committed to make payments of \$15,885 per month, increasing 3% annually, plus our pro rata share of operating costs for the building and office complex, through May 31, 2010.

We will depend upon royalties from the sale of Hextend by Hospira and CJ as our principal source of revenues for the near future. Those royalty revenues will be supplemented by any revenues that we may receive from our stem cell research products, and by license fees if we enter into new commercial license agreements for our products.



The amount and pace of research and development work that we can do or sponsor, and our ability to commence and complete the clinical trials that are required in order for us to obtain FDA and foreign regulatory approval of products, depend upon the amount of money we have. Future research and clinical study costs are not presently determinable due to many factors, including the inherent uncertainty of these costs and the uncertainty as to timing, source, and amount of capital that will become available for these projects. We have already curtailed the pace of our plasma volume expander development efforts due to the limited amount of funds available, and we may have to postpone further laboratory and clinical studies, unless our cash resources increase through growth in revenues, the completion of licensing agreements, additional equity investment, borrowing, or third party sponsorship.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We did not hold any market risk sensitive instruments as of December 31, 2008 or December 31, 2007.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of  
BioTime, Inc.

We have audited the accompanying consolidated balance sheets of BioTime, Inc. and Subsidiary (collectively, the "Company") as of December 31, 2008 and 2007, and the related consolidated statements of operations, shareholders' deficit, and cash flows of the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of BioTime, Inc. and Subsidiary as of December 31, 2008 and 2007, and the results of their operations and their cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has a working capital deficit of \$3,269,643, a shareholders' deficit of \$4,346,814 and an accumulated deficit of \$47,625,392. These conditions, among others, raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Rothstein, Kass & Company, P.C.

Roseland, New Jersey  
March 17, 2009

## Item 8. Financial Statements and Supplementary Data.

BIOTIME, INC.

## CONSOLIDATED BALANCE SHEET

|  | December<br>31, 2008 | December 31,<br>2007 |
|--|----------------------|----------------------|
| <b>ASSETS</b>  |                      |                      |
| <b>CURRENT ASSETS</b>  |                      |                      |
| Cash and cash equivalents  | \$ 12,279            | \$ 9,501             |
| Prepaid expenses and other current assets  | 96,595               | 67,125               |
| Total current assets   | 108,874              | 76,626               |
| Equipment, net of accumulated depreciation of<br>\$602,510 and \$585,765 in 2008 and 2007, respectively  | 105,607              | 12,480               |
| Deferred license fees  | 750,000              |                      |
| Deposits   | 70,976               | 20,976               |
| <b>TOTAL ASSETS</b>  | <b>\$ 1,035,457</b>  | <b>\$ 110,082</b>    |
| <b>LIABILITIES AND SHAREHOLDERS' DEFICIT</b>   |                      |                      |
| <b>CURRENT LIABILITIES</b>   |                      |                      |
| Accounts payable and accrued liabilities   | \$ 1,179,914         | \$ 480,374           |
| Lines of credit payable, net   | 1,885,699            | 716,537              |
| Deferred license revenue, current portion  | 312,904              | 261,091              |
| Total current liabilities  | 3,378,517            | 1,458,002            |
| Stock appreciation rights compensation liability   | 483,688              | 13,151               |
| Deferred rent, net of current portion  | 3,339                | 9,636                |
| Deferred license revenue, net of current portion   | 1,516,727            | 1,740,702            |
| Total long-term liabilities  | 2,003,754            | 1,763,489            |
| <b>COMMITMENTS AND CONTINGENCIES</b>   |                      |                      |
| <b>SHAREHOLDERS' DEFICIT:</b>  |                      |                      |
| Common Shares, no par value, authorized 50,000,000<br>shares; issued and outstanding shares; 25,076,798 and<br>23,034,374 in 2008 and 2007, respectively | 43,184,606           | 40,704,136           |
| Contributed capital  | 93,972               | 93,972               |
| Accumulated deficit  | (47,625,392)         | (43,844,497)         |
| Total shareholders' deficit  | (4,346,814)          | (3,046,389)          |
| <b>TOTAL LIABILITIES AND<br/>SHAREHOLDERS' DEFICIT</b>   | <b>\$ 1,035,457</b>  | <b>\$ 110,082</b>    |



See notes to consolidated financial statements.

BIOTIME, INC.

## CONSOLIDATED STATEMENTS OF OPERATIONS

|  | Year Ended<br>December 31, |                       |
|--|----------------------------|-----------------------|
|  | 2008                       | 2007                  |
| <b>REVENUE:</b>  |                            |                       |
| License fees   | \$ 277,999                 | \$ 255,549            |
| Royalty from product sales   | 1,203,453                  | 776,679               |
| Grant income   | 22,340                     | 13,893                |
| Total revenue  | 1,503,792                  | 1,046,121             |
| <b>EXPENSES:</b>   |                            |                       |
| Research and development   | (1,706,214)                | (967,864)             |
| General and administrative   | (2,620,210)                | (1,300,630)           |
| Total expenses   | (4,326,424)                | (2,268,494)           |
| Loss from operations   | (2,822,632)                | (1,222,373)           |
| <b>OTHER INCOME (EXPENSES):</b>  |                            |                       |
| Interest expense   | (965,781)                  | (232,779)             |
| Other income   | 7,518                      | 16,926                |
| Total net other income (expenses)  | (958,263)                  | (215,853)             |
| <b>NET LOSS</b>  | <b>\$ (3,780,895)</b>      | <b>\$ (1,438,226)</b> |
| <b>BASIC AND DILUTED LOSS PER COMMON<br/>SHARE</b>                                     |                            |                       |
|  | <b>\$ (0.16)</b>           | <b>\$ (0.06)</b>      |
| <b>WEIGHTED AVERAGE NUMBER OF COMMON<br/>SHARES OUTSTANDING: BASIC AND<br/>DILUTED</b> |                            |                       |
|  | <b>23,749,933</b>          | <b>22,853,278</b>     |

See notes to consolidated financial statements.

## BIOTIME, INC.

## CONSOLIDATED STATEMENTS OF SHAREHOLDERS' DEFICIT

|  | Common Shares |               |             |                 | Total          |
|--|---------------|---------------|-------------|-----------------|----------------|
|  | Number of     | Amount        | Contributed | Accumulated     | Shareholders'  |
|  | Shares        |               | Capital     | Deficit         | Deficit        |
| BALANCE AT JANUARY 1, 2007   | 22,574,374    | \$ 40,447,078 | \$ 93,972   | \$ (42,406,271) | \$ (1,865,221) |
| Common shares issued for line of credit                                    | 200,00        | 106,000       |             |                 | 106,000        |
| Shares granted for services  | 260,000       | 103,000       |             |                 | 103,000        |
| Options granted under FASB 123(R)  |               | 48,058        |             |                 | 48,058         |
| NET LOSS   |               |               |             | (1,438,226)     | (1,438,226)    |
| BALANCE AT DECEMBER 31, 2007   | 23,034,374    | 40,704,136    | 93,972      | (43,844,497)    | (3,046,389)    |
| Common shares issued for line of credit                                    | 580,410       | 273,200       |             |                 | 273,200        |
| Common shares issued for conversion of<br>line credit and accrued interest | 1,112,014     | 1,442,409     |             |                 | 1,442,409      |
| Shares granted for services  | 225,000       | 137,250       |             |                 | 137,250        |
| Shares issued to investors   | 100,000       | 100,000       |             |                 | 100,000        |
| Exercise of options  | 25,000        | 8,000         |             |                 | 8,000          |
| Stock options granted for compensation                                     |               | 134,518       |             |                 | 134,518        |
| Warrants issued for lines of credit  |               | 225,951       |             |                 | 225,951        |
| Warrants issued for services   |               | 159,142       |             |                 | 159,142        |
| NET LOSS   |               |               |             | (3,780,895)     | (3,780,895)    |
| BALANCE AT DECEMBER 31, 2008   | 25,076,798    | \$ 43,184,606 | \$ 93,972   | \$ (47,625,392) | \$ (4,346,814) |

See notes to consolidated financial statements.

## BIOTIME, INC.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

|   | Year Ended<br>December 31, |                  |
|---|----------------------------|------------------|
|   | 2008                       | 2007             |
| <b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>                                |                            |                  |
| Net loss  | \$ (3,780,895)             | \$ (1,438,226)   |
| Adjustments to reconcile net loss to net cash used in operating activities: |                            |                  |
| Depreciation and amortization   | 16,745                     | 4,833            |
| Amortization of deferred license revenues                                   | (277,999)                  | (255,549)        |
| Amortization of deferred finance cost on lines of credit                    | 321,514                    | 61,486           |
| Amortization of deferred consulting fees                                    | 19,409                     | –                |
| Interest on royalty obligation  | –                          | 129,458          |
| Interest on lines of credit   | –                          | 21,600           |
| Beneficial conversion feature on notes and interest                         | 330,394                    | –                |
| Common stock issued for services  | 137,250                    | –                |
| Warrants issued for services  | 52,393                     | –                |
| Stock-based compensation  | 134,518                    | 151,059          |
| Changes in operating assets and liabilities:                                |                            |                  |
| Accounts receivable, net  | 754                        | 3,675            |
| Prepaid expenses and other current assets                                   | 57,115                     | (33,632)         |
| Accounts payable and accrued expenses                                       | 699,539                    | 46,441           |
| Interest on lines of credit   | 114,938                    | 21,600           |
| Deferred license revenue  | 105,840                    | 53,987           |
| Deferred rent   | (6,297)                    | 1,737            |
| Stock appreciation rights compensation liability                            | 470,537                    | 13,151           |
| Net cash used in operating activities                                       | (1,604,245)                | (1,239,980)      |
| <b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>                                |                            |                  |
| Payments of license fees  | (750,000)                  | –                |
| Purchase of equipment   | (109,872)                  | (6,473)          |
| Security deposit  | (50,000)                   | –                |
| Net cash used in investing activities                                       | (909,872)                  | (6,473)          |
| <b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>                                |                            |                  |
| Repayments of lines of credit   | (16,085)                   | –                |
| Borrowings under lines of credit  | 2,424,980                  | 694,937          |
| Issuance of common shares for cash  | 108,000                    | –                |
| Net cash provided by financing activities                                   | 2,516,895                  | 694,937          |
| <b>NET CHANGE IN CASH AND CASH EQUIVALENTS</b>                              | <b>2,778</b>               | <b>(551,516)</b> |
| <b>CASH AND CASH EQUIVALENTS:</b>   |                            |                  |
| At beginning of year  | 9,501                      | 561,017          |
| At end of year  | \$ 12,279                  | \$ 9,501         |

|  |              |            |
|--|--------------|------------|
| SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION: cash paid during year for interest | \$ 157,620   | \$ 81,721  |
| <b>SUPPLEMENTAL SCHEDULE OF NONCASH FINANCING AND INVESTING ACTIVITIES:</b>          |              |            |
| Issuance of stock related to conversion of line of credit and accrued interest       | \$ 1,442,409 | \$ 106,000 |
| Common shares issued for line of credit  | \$ 273,200   | \$ —       |
| Warrants issued for line of credit   | \$ 225,951   | \$ —       |
| Warrants issued for services   | \$ 106,749   | \$ —       |

See notes to consolidated financial statements.

BIOTIME, INC.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and basis of presentation

General - BioTime, Inc. was organized November 30, 1990 as a California corporation. BioTime is a biomedical organization engaged in the development of synthetic plasma expanders and blood volume substitute solutions for use in surgery, trauma care, organ transplant procedures, and other areas of medicine. In December 2007, BioTime formed Embryome Sciences, Inc., a wholly-owned subsidiary organized to enter the field of regenerative medicine where we plan to develop stem cell related products and technology for diagnostic, therapeutic, and research use.

Principles of Consolidation and Presentation – The accompanying consolidated financial statements include the accounts of Embryome Sciences, Inc., a wholly-owned subsidiary of BioTime. All material intercompany accounts and transactions have been eliminated in consolidation. The consolidated financial statements are presented in accordance with accounting principles generally accepted in the United States and with the accounting and reporting requirements of Regulation S-X of the SEC.

Certain Significant Risks and Uncertainties - BioTime's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include but are not limited to the following: the results of clinical trials of BioTime's pharmaceutical products; BioTime's ability to obtain United States Food and Drug Administration and foreign regulatory approval to market its pharmaceutical products; BioTime's ability to develop new stem cell research products and technologies; competition from products manufactured and sold or being developed by other companies; the price of and demand for BioTime products; BioTime's ability to obtain additional financing and the terms of any such financing that may be obtained; BioTime's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products; the availability of ingredients used in BioTime's products; and the availability of reimbursement for the cost of BioTime's pharmaceutical products (and related treatment) from government health administration authorities, private health coverage insurers and other organizations.

Going Concern - At December 31, 2008, BioTime had \$12,279 of cash on hand and negative working capital of \$3,269,643, a shareholders' deficit of \$4,346,814 and an accumulated deficit of \$47,625,392. BioTime will continue to need additional capital and greater revenues to continue its current operations and to continue to conduct its product development and research programs. Sales of additional equity securities could result in the dilution of the interests of present shareholders. BioTime is also continuing to seek new agreements with pharmaceutical companies to provide product and technology licensing fees and royalties. The availability and terms of equity financing and new license agreements are uncertain. The unavailability or inadequacy of additional financing or future revenues to meet capital needs could force BioTime to modify, curtail, delay or suspend some or all aspects of its planned operations. Additionally, in November 2008, BioTime's line of credit for working capital was increased and the maturity date was extended (see Note 3). BioTime will continue to seek additional financing or capital as well as additional licensing revenues from its current and future patents. In view of the matters described above, BioTime's continued operations are dependent on its ability to raise additional capital, obtain additional financing, and succeed in

generating more revenue from its operations. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts and classification of liabilities should the company be unable to continue as a going concern.

## 2. Summary of Significant Accounting Policies

**Financial Statement Estimates** - The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Revenue recognition** – BioTime complies with the Securities and Exchange Commission’s (“SEC”) Staff Accounting Bulletin (“SAB”) No. 101, Revenue Recognition, as amended by SAB No. 104. Royalty and license fee revenues consist of product royalty payments and fees under license agreements and are recognized when earned and reasonably estimable. BioTime recognizes revenue in the quarter in which the royalty report is received rather than the quarter in which the sales took place, as it does not have sufficient sales history to accurately predict quarterly sales. Up-front nonrefundable fees where BioTime has no continuing performance obligations are recognized as revenues when collection is reasonably assured. In situations where continuing performance obligations exist, up-front nonrefundable fees are deferred and amortized ratably over the performance period. If the performance period cannot be reasonably estimated, BioTime amortizes nonrefundable fees over the life of the contract until such time that the performance period can be more reasonably estimated. Milestones, if any, related to scientific or technical achievements are recognized in income when the milestone is accomplished if (a) substantive effort was required to achieve the milestone, (b) the amount of the milestone payment appears reasonably commensurate with the effort expended and (c) collection of the payment is reasonably assured.

Grant income is recognized as revenue when earned.

**Cash and cash equivalents** – BioTime considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

**Concentrations of credit risk** - Financial instruments that potentially subject BioTime to significant concentrations of credit risk consist primarily of cash and cash equivalents. BioTime limits the amount of credit exposure of cash balances by maintaining its accounts in high credit quality financial institutions. Cash equivalent deposits with financial institutions may, at times, exceed federally issued limits; however, BioTime has not experienced any losses on such accounts.

Equipment - Equipment is stated at cost. Equipment is being depreciated using the straight-line method over a period of thirty-six to eighty-four months.

Deferred costs – Certain costs incurred in obtaining the line of credit have been deferred and are being amortized over the term of the line of credit agreements.

Patent costs - Patent costs associated with obtaining patents on products being developed are expensed as general and administrative expenses when incurred. These costs totaled \$120,054 and \$103,204, for the years ended December 31, 2008 and 2007, respectively. This accounting is in compliance with Statement of Financial Accounting Standards (“SFAS”) No. 142, Goodwill and Other Intangible Assets.

Research and development – BioTime complies with the accounting requirements of SFAS No.2, Accounting for Research and Development Costs. Research and development costs are expensed when incurred and consist principally of salaries, payroll taxes, research and laboratory fees, hospital and consultant fees related to clinical trials, and BioTime’s PentaLyte solution for use in human clinical trials.

Income Taxes - BioTime accounts for income taxes in accordance with SFAS No. 109, Accounting for Income Taxes, which prescribes the use of the asset and liability method whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates in effect. Valuation allowances are established when necessary to reduce deferred tax assets when it is more likely than not that a portion or all of the deferred tax assets will not be realized. Effective January 1, 2007, the Company adopted the provisions of the FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes - an interpretation of FASB Statement No. 109 ("FIN 48"). There were no unrecognized tax benefits as of January 1, 2007 and as of December 31, 2007 and 2008. FIN 48 prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more-likely-than-not sustainable upon examination by taxing authorities. The Company recognizes accrued interest and penalties related to unrecognized tax benefits as income tax expense. No amounts were accrued for the payment of interest and penalties for the years ended December 31, 2007 and 2008. Management is currently unaware of any issues under review that could result in significant payments or accruals.

Stock-based Compensation - On January 1, 2006, BioTime adopted SFAS No. 123 (revised 2004), Share-Based Payment (“SFAS 123(R)”) which requires the measurement and recognition of compensation expense for all share-based payment awards made to directors and employees including employee stock options based on estimated fair values. SFAS 123(R) supersedes BioTime's previous accounting using the intrinsic value method under Accounting Principles Board Opinion (“APB”) No. 25, Accounting for Stock Issued to Employees for periods beginning in fiscal 2006. In March 2005, the SEC issued SAB No. 107, Valuation of Share-Based Payment Arrangements for Public Companies, which provides supplemental implementation guidance for SFAS 123(R). BioTime has applied the provisions of SAB 107 in its adoption of SFAS 123(R). Upon adoption of SFAS 123 (R), BioTime has continued to utilize the Black-Scholes Merton option pricing model which was previously used for BioTime's proforma disclosures under SFAS 123. BioTime's determination of fair value of share-based payment awards on the date of grant using an option-pricing model is affected by BioTime's stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, BioTime's expected stock price volatility over the term of the awards, and the actual and the projected employee stock options exercise behaviors. The expected term of options granted is derived from historical data on employee exercises and post-vesting employment termination behavior. The risk-free rate is based on the U.S Treasury rates in effect during the corresponding period of grant. Because changes in the subjective assumptions can materially affect the estimated value, in management's opinion, the existing valuation models may not provide an accurate measure of the fair value of BioTime's employee stock options. Although the fair value of employee stock options is determined in accordance with SFAS 123(R) and SAB 107 using an option-pricing model, that



value may not be indicative of the fair value observed in a willing buyer/willing seller market transaction.

**Impairment of Long-Lived Assets** – In accordance with SFAS No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets, long-lived assets, including intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be fully recoverable. If an impairment indicator is present, the Company evaluates recoverability by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are impaired, the impairment recognized is measured by the amount by which the carrying amount exceeds the estimated fair value of the assets.

**Loss per share** – BioTime complies with the accounting and reporting requirements of SFAS No. 128, “Earnings Per Share.” Basic net loss per share is computed by dividing net loss available to common stockholders by the weighted-average common shares outstanding for the period. Diluted net loss per share reflects the weighted-average common shares outstanding plus the potential effect of dilutive securities or contracts which are convertible to common shares such as options, warrants, convertible debt, and preferred stock (using the treasury stock method) and shares issuable in future periods, except in cases where the effect would be anti-dilutive. Diluted loss per share for the years ended December 31, 2008 and 2007 excludes any effect from 3,538,332 options and 8,344,534 warrants; 3,333,332 options and 7,847,867 warrants, respectively, as their inclusion would be antidilutive.

**Fair value of financial instruments** - The fair value of the Company’s assets and liabilities, which qualify as financial instruments under SFAS No. 107, Disclosures About Fair Value of Financial Instruments, approximate the carrying amounts presented in the accompanying Consolidated Balance Sheets.

**Reclassification** – Certain prior year amounts have been reclassified to conform to the current year presentation.

**Recently adopted accounting pronouncements** – On December 21, 2007, the SEC issued SAB No. 110, which amends SAB No. 107 to allow for the continued use of the simplified method to estimate the expected term in valuing stock options beyond December 31, 2007. The simplified method can only be applied to certain types of stock options for which sufficient exercise history is not available. BioTime has concluded that its historical share option exercise experience does not provide a reasonable basis upon which to estimate the expected term due to the significant structural changes in its business. Therefore, BioTime will continue to use the "simplified" method in developing its estimate of the expected term of the stock options granted under its 1992 and 2002 Stock Option Plans.

In September 2006, the Financial Accounting Standards Board (the “FASB”) issued SFAS No. 157, Fair Value Measurements, which defines fair value, establishes a framework for measuring fair value under GAAP, and expands disclosures about fair value measurements. SFAS No. 157 applies to other accounting pronouncements that require or permit fair value measurements. The new guidance is effective for financial statements issued for fiscal years beginning after November 15, 2007, and for interim periods within those fiscal years. BioTime adopted SFAS No. 157 during the quarter ended March 31, 2008 which had no impact on its consolidated financial statements. In October 2008, the FASB issued FSP No. 157-3, Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active (“FSP 157-3”). FSP 157-3 clarifies the application of SFAS 157 in a market that is not active and provides an example to illustrate key considerations in determining the fair value of a financial asset when the market for that financial asset is not active. BioTime is still in the process of evaluating the impact that FSP 157-3 will have on its related financial assets.

In February 2007, the FASB issued SFAS No. 159, The Fair Value Option for Financial Assets and Financial Liabilities. SFAS No. 159 permits entities to choose to measure many financial instruments, and certain other items, at fair value. SFAS No. 159 was effective January 1, 2008. The adoption of SFAS No. 159 did not have an impact on the consolidated financial statements since BioTime did not elect the fair value option for any of its existing assets or liabilities.



Recently issued accounting pronouncements – In December 2007, the FASB issued SFAS No. 141R (revised 2007), Business Combinations (“SFAS No. 141R”), which replaces SFAS No. 141. SFAS No. 141R establishes the principles and requirements for how an acquirer: (i) recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, and any non-controlling interest in the acquiree; (ii) recognizes and measures the goodwill acquired in the business combination or a gain from a bargain purchase; and (iii) determines what information to disclose to enable users of the financial statements to evaluate the nature and financial effects of the business combination. Additionally, SFAS No. 141R requires that acquisition-related costs be expensed as incurred. The provisions of SFAS No. 141R will become effective for acquisitions completed on or after January 1, 2009; however, the income tax provisions of SFAS No. 141R will become effective as of that date for all acquisitions, regardless of the acquisition date. SFAS No. 141R amends SFAS No. 109, to require the acquirer to recognize changes in the amount of its deferred tax benefits recognizable due to a business combination either in income from continuing operations in the period of the combination or directly in contributed capital, depending on the circumstances. SFAS No. 141R further amends SFAS No. 109 and FIN 48, to require, subsequent to a prescribed measurement period, changes to acquisition-date income tax uncertainties to be reported in income from continuing operations and changes to acquisition-date acquiree deferred tax benefits to be reported in income from continuing operations or directly in contributed capital, depending on the circumstances. BioTime is currently evaluating the impact SFAS No. 141R will have on its future business combinations.

In December 2007, the FASB issued SFAS No. 160, Non-controlling Interests in Consolidated Financial Statements—An Amendment of ARB No. 51. SFAS No. 160 establishes new accounting and reporting standards for the non-controlling interest in a subsidiary and for the deconsolidation of a subsidiary. SFAS No. 160 is effective for fiscal years beginning on or after December 15, 2008. BioTime does not believe the adoption of this statement will have a material effect on its consolidated financial position, results of operations, and cash flows.

In March 2008, the FASB issued SFAS No. 161, Disclosures about Derivative Instruments and Hedging Activities—An Amendment of FASB Statement No. 133. SFAS No. 161 applies to all derivative instruments and related hedged items accounted for under FASB Statement No. 133, Accounting for Derivative Instruments and Hedging Activities. It requires entities to provide greater transparency about (a) how and why an entity uses derivative instruments, (b) how derivative instruments and related hedged items are accounted for under Statement No. 133 and its related interpretations, and (c) how derivative instruments and related hedged items affect an entity’s financial position, results of operations, and cash flows. SFAS No. 161 is effective for fiscal years and interim periods beginning after November 15, 2008. BioTime does not believe the adoption of this statement will have a material effect on its consolidated financial statements.

In May 2008, the FASB issued FASB Staff Position (“FSP”) Emerging Issues Task Force (“EITF”) No. 03-6-1, Determining Whether Instruments Granted in Share-Based Payment Transactions Are Participating Securities (“EITF 03-6-1”). EITF 03-6-1 addresses whether

instruments granted in share-based payment transactions, with rights to dividends or dividend equivalents, are participating securities prior to vesting and, therefore, need to be included in the earnings allocation in computing earnings per share ("EPS") under the two-class method described in FASB Statement No. 128, "Earnings per Share." Unvested share-based payment awards that contain nonforfeitable rights to dividends or dividend equivalents (whether paid or unpaid) are participating securities and shall be included in the computation of EPS pursuant to the two-class method. In contrast, the right to receive dividends or dividend equivalents that the holder will forfeit if the award does not vest does not constitute a participation right. EITF 03-6-1 is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. All prior-period EPS data presented shall be adjusted retrospectively (including interim financial statements, summaries of earnings, and selected financial data). Early adoption of EITF 03-6-1 is prohibited. BioTime will adopt EITF 03-6-1 as of January 1, 2009, and does not currently believe that the adoption will have a material impact on its consolidated financial statements.

### 3. Lines of Credit

BioTime has a Revolving Line of Credit Agreement (the "Credit Agreement") with certain private lenders that is collateralized by a security interest in BioTime's right to receive royalty and other payments under its license agreement with Hospira. The Credit Agreement was first implemented during 2006 and has been amended from time to time since then, including amendments that increased the amount of credit available. The Credit Agreement permits BioTime to borrow up to \$3,500,000.

Current loans under the Credit Agreement bear interest at the rate of 12% per annum and will mature on April 15, 2009, at which time the outstanding principal balance of the loans plus accrued interest will be due and payable.

The Credit Agreement lenders were given the right to exchange their line of credit promissory notes for BioTime common shares and/or for common stock of BioTime's subsidiary, Embryome Sciences. The applicable price at which a lender's promissory note may be exchanged for BioTime shares or Embryome Sciences shares is determined based upon the date the lender made their loan commitment and date on which the exchange takes place. As of December 31, 2008, lenders could exchange their notes for BioTime common shares at prices ranging from \$1.25 to \$1.50 per share, or for Embryome Sciences shares at prices ranging from \$2.25 to \$2.50 per share. Prior to November 15, 2008 the notes could be exchanged for BioTime shares at a price of \$1.00 per share. As of December 31, 2008 certain lenders elected to exchange, in the aggregate, \$1,050,000 of principal and \$62,015 of accrued interest on their loans for 1,112,014 BioTime common shares. BioTime has recorded the beneficial conversion feature charge of approximately \$330,000 which is included in the interest expense.

In consideration for making the additional credit available and for extending the maturity date of outstanding loans, BioTime agreed to issue the lenders a number of common shares having an aggregate market value equal to six percent (6%) of the lender's loan commitment. As of December 31, 2008, BioTime had issued a total of 70,411 common shares to lenders who received promissory notes maturing in April 2009.

In November 2008, Embryome Sciences borrowed \$300,000 from certain private lenders. As consideration for arranging the loans, BioTime issued warrants to purchase up to 156,667 common shares. The warrants will be exercisable at a price of \$2.00 per share, and will expire on October 31, 2010 if not exercised prior to that date. The Embryome Sciences lenders subsequently joined as lenders under the BioTime Credit Agreement and accepted a promissory note from BioTime in satisfaction of Embryome Sciences' loan obligation. As part of that transition, the interest rate on their loan amounts increased from 9.8% to 12%, and the lenders were issued a total of 7,828 BioTime common shares.

BioTime also obtained a line of credit from American Express in August 2004, which allows for borrowings up to \$25,300; at December 31, 2008, BioTime had drawn \$21,700 against this line. Interest is paid monthly on borrowings at a total rate equal to the prime rate plus 3.99%; however, regardless of the prime rate, the interest rate payable will at no time be less than 9.49%.

BioTime also secured a line of credit from Advanta in November 2006, which allows for borrowings up to \$35,000; at December 31, 2008, BioTime had drawn the entire \$35,000 against this line. Interest is payable on borrowings at a Variable Rate Index, which will at no time be less than 8.25%.

As of December 31, 2008 and 2007, the deferred debt discount was approximately \$243,000 and \$65,000, respectively, which will be amortized over the remaining period of underlying outstanding debt.

#### 4. License Fees and Royalty Obligation

In December 2004, BioTime entered into an agreement with Summit Pharmaceuticals International Corporation ("Summit") to co-develop Hextend and PentaLyte for the Japanese market. Under the agreement, BioTime received \$300,000 in December 2004, \$450,000 in April 2005, and \$150,000 in October 2005. The payments represent a partial reimbursement of BioTime's development cost of Hextend and PentaLyte. In June 2005, following BioTime's approval of Summit's business plan for Hextend, BioTime paid to Summit a one-time fee of \$130,000 for their services in preparing the plan. The agreement states that revenues from Hextend and PentaLyte in Japan will be shared between BioTime and Summit as follows: BioTime 40% and Summit 60%. Additionally, BioTime will pay Summit 8% of all net royalties received from the sale of PentaLyte in the United States.

The accounting treatment of the payments from Summit falls under the guidance of Emerging Issues Task Force ("EITF") Issue No. 88-18, "Sales of Future Revenues." EITF 88-18 addresses the accounting treatment when an enterprise (BioTime) receives cash from an investor (Summit) and agrees to pay to the investor a specified percentage or amount of the revenue or a measure of income of a particular product line, business segment, trademark, patent, or contractual right. The Emerging Issues Task Force reached a consensus on six independent factors that would require reclassification of the proceeds as debt. BioTime met one of the factors: BioTime was

determined to have had significant continuing involvement in the generation of the cash flows to the investor due to BioTime's supervision of the Phase II clinical trials of PentaLyte. As a result, BioTime initially recorded the net proceeds from Summit to date of \$770,000 as long-term debt to comply with EITF 88-18 even though BioTime is not legally indebted to Summit for that amount.

In July 2005, Summit sublicensed the rights to Hextend in Japan to Maruishi. In consideration for the license, Maruishi agreed to pay Summit a series of milestone payments: Yen 70,000,000, (or \$593,390 based on foreign currency conversion rates at the time) upon executing the agreement, and Yen 100,000,000 upon regulatory filing in Japan, and Yen 100,000,000 upon regulatory approval of Hextend in Japan. Consistent with the terms of the BioTime and Summit agreement, Summit paid 40% of that amount, or \$237,356, to BioTime during October 2005. BioTime does not expect the regulatory filing and approval milestones to be attained for several years.

The initial accounting viewed the potential repayment of the \$770,000 imputed debt to come only from the 8% share of US PentaLyte revenues generated by BioTime and paid to Summit. BioTime first became aware of the terms of the Maruishi and Summit agreement during the fourth quarter of 2005, prepared an estimate of the future cash flows, and determined that Summit would earn a majority of their return on investment from their agreement with Maruishi, and not the 8% of BioTime's U.S. PentaLyte sales. Considering this, the \$770,000 was viewed as a royalty obligation which will be reduced by Summit's 8% share of BioTime's U.S. PentaLyte sales plus Summit's 60% share of Japanese revenue. Accordingly, BioTime recorded the entire amount paid by Maruishi to Summit for the sublicense of \$593,390 as deferred revenue, to be amortized over the remaining life of the patent through 2019. BioTime's 40% share of this payment was collected in October 2005 and the remaining 60% share was recorded as a reduction of the long-term royalty obligation of BioTime to Summit. Interest on the long-term royalty obligation was accrued monthly using the effective interest method beginning October 2005, using a rate of 25.2% per annum, which BioTime has determined is the appropriate interest rate when the future cash flows from the transaction are considered.

In 2007, BioTime completed its Phase II trials of PentaLyte, however was unable to find a suitable licensing agreement for the product. At this time, BioTime has deemed the continuation of the clinical trials necessary to bring this product to market to be a significantly lower priority than it had been in the past. Correspondingly, it is less likely that proceeds from the 8% of PentaLyte US sales will be sufficient to pay down the Summit Royalty Obligation prior to the expiration of the patents. As a result of this change in accounting estimates, BioTime has reevaluated treatment of this transaction. The transaction no longer meets any of the factors that require it to fall under the guidance from EITF88-18. Consequently, BioTime has reclassified the royalty obligation to deferred revenue and is amortizing it over the remaining life of the underlying patents.

##### 5. Shareholders' Deficit

During April 1998, BioTime initially entered into a financial advisory services agreement with Greenbelt, Corp., a corporation controlled by Alfred D. Kingsley and Gary K. Duberstein, who are also shareholders of BioTime. Until 2007, the agreement was renewed annually in March and covered the 12 months ending March 31. The renewed agreement

for 2008 covers services provided from January 1 through December 31, 2008. Under the 2008 agreement, BioTime agreed to pay \$135,000 in cash and to issue 300,000 common shares for the twelve months ending December 31, 2008. Greenbelt permitted BioTime to defer paying the entire \$135,000 until January 2009. In return for Greenbelt allowing the deferral, 60,000 common shares became issuable by BioTime to Greenbelt in January 2009, the value of which was accrued for in BioTime's financial statements as of December 31, 2008. BioTime agreed to indemnify Greenbelt and its officers, affiliates, employees, agents, assignees, and controlling person from any liabilities arising out of or in connection with actions taken on BioTime's behalf under the agreement.

Activity related to the Greenbelt agreement is presented in the table below:

|      | Balance<br>included in<br>Accounts<br>Payable at<br>January 1 | Add:<br>Cash-based<br>expense<br>accrued | Add:<br>Stock-based<br>expense<br>accrued | Less:<br>Cash<br>payments | Less:<br>Value of<br>stock-based<br>payments | Balance<br>included in<br>Accounts<br>Payable at<br>December<br>31, |
|------|---|--|---|---------------------------|--|---|
| 2008 | \$ 90,000   | \$ 135,000                               | \$ 366,750                                | \$ (0)                    | \$ (137,250)                                 | \$ 454,500  |
| 2007 | \$ 108,000  | \$ 22,500                                | \$ 62,500                                 | \$ (0)                    | \$ (103,000)                                 | \$ 90,000   |

BioTime, as part of rights offerings and other agreements, has issued warrants to purchase its common stock. Activity related to warrants in 2008 and 2007 is presented in the table below:

|  | Number of<br>Shares | Per share<br>warrant<br>price | Weighted<br>Average<br>Exercise<br>Price |
|--|---------------------|-------------------------------|--|
| Outstanding, January 1, 2007               | 7,943,314           | \$ 2.00                       | \$ 2.00                                  |
| Expired in 2007                            | (95,447)            | 1.34-3.92                     | 2.17                                     |
| Shares under warrants at December 31, 2007 | 7,847,867           | \$ 2.00                       | 2.00                                     |
| Granted in 2008                            | 496,667             | \$ .68-2.00                   | 1.98                                     |
| Outstanding, December 31, 2008             | 8,344,534           | \$ 2.00                       | \$ 2.00                                  |

At December 31, 2008, 8,344,534 warrants to purchase common stock with a weighted average exercise price of \$1.98 and a weighted average remaining contractual life of 1.87 years were outstanding.

In March 2006, the board of directors approved an increase in the authorized number of common shares to 50,000,000 shares.

In October 2007, BioTime granted certain executives options to purchase 2,000,000 of BioTime's common shares (the "Options") under BioTime's 2002 Employee Stock Option Plan, as amended (the "2002 Plan"). The Options are paired with stock appreciation rights ("SARs")



with respect to 1,302,030 shares. The exercise price of the Options and the SARs is \$0.50 per share. The Options and SARs will vest at the rate of 1/60th of the number of Options or SARs granted at the end of each full month of employment.

The vested portion of the Option and SARs shall expire on the earliest of (A) seven (7) years from the date of grant, (B) three months after the executive ceases to be an employee of BioTime for any reason other than his death or disability, or (C) one year after he ceases to be an employee of BioTime due to his death or disability; provided that if he dies during the three month period described in clause (B), the expiration date of the vested portion of this Option shall be one year after the date of his death. In addition, if a SAR is exercised, the vested portion of the Option shall expire as to a number of shares for which the SAR was exercised, and the vested and unvested portion of the SAR shall expire when the shareholders of BioTime approve an amendment to the 2002 Plan increasing the number of common shares available under the 2002 Plan from 2,000,000 to 4,000,000 shares.

## 6. Stock Option Plans

During 1992, BioTime adopted the 1992 Stock Option Plan (the "1992 Plan"). Options granted under the 1992 Plan expire five to ten years from the date of grant and may be fully exercisable immediately, or may be exercisable according to a schedule or conditions specified by the Board of Directors or the Option Committee. As of December 31, 2008, options to purchase 59,500 shares had been granted and were outstanding at an exercise price of \$11.75 under the 1992 Plan. At December 31, 2008, no options were available for future grants under the 1992 Plan.

During 2002, BioTime adopted the 2002 Plan, which was amended during December 2004 to reserve 2,000,000 common shares for issuance under options granted to eligible persons. During October 2007 the Board of Directors approved an amendment to the 2002 Plan that will permit the grant of options to purchase up to an additional 2,000,000 common shares. The 2007 amendment is subject to approval by BioTime's shareholders. No options may be granted under the 2002 Plan more than ten years after the date the 2002 Plan was adopted by the Board of Directors, and no options granted under the 2002 Plan may be exercised after the expiration of ten years from the date of grant. Under the 2002 Plan, options to purchase common shares may be granted to employees, directors and certain consultants at prices not less than the fair market value at date of grant for incentive stock options and not less than 85% of fair market value for other stock options. These options expire five to ten years from the date of grant and may be fully exercisable immediately, or may be exercisable according to a schedule or conditions specified by the Board of Directors or the Compensation Committee. The 2002 Plan also permits BioTime to sell common shares to employees subject to vesting provisions under restricted stock agreements that entitle BioTime to repurchase unvested shares at the employee's cost upon the occurrence of specified events, such as termination of employment. BioTime may permit employees or consultants, but not executive officers or directors, who purchase stock under restricted stock purchase agreements to pay for their shares by delivering a promissory note that is secured by a pledge of their shares. Under the 2002 Plan, as of December 31, 2008, BioTime had granted to certain employees, consultants, and directors, options to purchase a total of 1,926,802 common shares at exercise prices ranging from \$0.32 to \$2.17 per share. There was also a grant of 1,302,030 options to two executive officers in October 2007 that is subject to shareholder approval of the 2007 amendment of the 2002 Plan.

On January 1, 2006, BioTime adopted SFAS 123(R), which requires the measurement and recognition for all share-based payment awards made to BioTime's employees and directors including employee stock options. The following table summarizes stock-based compensation expense related to employee and director stock options awards for the years ended December 31, 2008 and 2007, which was allocated as follows:

|  | Year Ended December 31, |           |
|--|-------------------------|-----------|
|  | 2008                    | 2007      |
| All stock-based compensation expense:                              |                         |           |
| General and Administrative   | \$ 206,321              | \$ 48,058 |
| Stock appreciation rights  | 470,537                 | 13,151    |
| All stock-based compensation expense included in operating expense | \$ 676,858              | \$ 61,209 |

BioTime adopted SFAS 123(R) using the modified prospective transition method, which requires the application of the accounting standard as of January 1, 2006, the first day of BioTime's fiscal year 2006. BioTime's financial statements as of and for the year ended December 31, 2006, reflect the impact of SFAS 123(R). As of December 31, 2008, total unrecognized compensation costs related to unvested stock options was \$330,874, which is expected to be recognized as expense over a weighted average period of approximately 3.68 years.

For all applicable periods, the value of each employee and director stock option was estimated on the date of grant using the Black-Scholes Merton model for the purpose of the pro forma financial disclosures in accordance with SFAS 123.

The weighted-average estimated fair value of stock options granted during the years ended December 31, 2008 and 2007 was \$0.71 and \$0.20 per share, respectively, using the Black-Scholes Merton model with the following weighted-average assumptions:

|                          | Year Ended<br>December 31, 2008 | Year Ended<br>December 31,<br>2007 |
|--------------------------|---------------------------------|------------------------------------|
| Expected lives in years  | 5                               | 5                                  |
| Risk free interest rates | 3.22%                           | 4.38%                              |
| Volatility               | 104%                            | 100%                               |
| Dividend yield           | 0%                              | 0%                                 |

For options granted prior to 2006 and valued in accordance with SFAS 123, the expected life and the expected volatility of the stock options were based upon historical data. Forfeitures of employee stock options were accounted for on an as-incurred basis.

## General Option Information

A summary of all option activity under the 1992 and 2002 option plans for the years ended December 31, 2008 and 2007 is as follows:

|   | Options Available for Grant | Number of Options Outstanding | Weighted Average Exercise Price |
|---|-----------------------------|-------------------------------|---------------------------------|
| January 1, 2007                               | 407,836                     | 1,811,664                     | \$ 2.20                         |
| Added via Amendment to 2002 Plan <sup>1</sup> | 2,000,000                   | -                             | -                               |
| Granted <sup>1</sup>                          | (2,040,000)                 | 2,040,000                     | 0.50                            |
| Forfeited/expired                             | 358,332                     | (518,332)                     | 2.96                            |
| December 31, 2007                             | 726,168                     | 3,333,332                     | 1.72                            |
| Granted <sup>2</sup>                          | (60,000)                    | 310,000                       | 1.28                            |
| Exercised                                     | -                           | (25,000)                      | 0.32                            |
| Forfeited/expired                             | 80,000                      | (80,000)                      | 1.55                            |
| December 31, 2008                             | 746,168                     | 3,538,332                     | \$ 1.77                         |

<sup>1</sup>During August 2007, the 2002 Stock Option Plan was amended to make 2,000,000 additional common shares available for the grant of options.

<sup>2</sup>The 310,000 options outstanding includes 250,000 options which were granted outside the 1992 and 2002 Stock Option Plans.

Additional information regarding options outstanding as of December 31, 2008 is as follows:

| Range of Exercise Prices | Number Outstanding | Options Outstanding                            |                              | Options Exercisable |                              |
|--------------------------|--------------------|--|------------------------------|---------------------|------------------------------|
|                          |                    | Weighted Avg. Remaining Contractual Life (yrs) | Weighted Avg. Exercise Price | Number Exercisable  | Weighted Avg. Exercise Price |
| \$.32-.47                | 494,500            | 3.79   | \$0.33                       | 494,500             | \$0.33                       |
| .50                      | 2,000,000          | 5.75   | .50                          | 2,000,000           | .50                          |
| .68-1.55                 | 318,332            | 2.79   | 1.12                         | 268,332             | 1.05                         |
| 2.00-2.17                | 666,000            | 1.48   | 2.26                         | 591,000             | 2.02                         |
| 11.75                    | 59,500             | 0.29   | 11.75                        | 59,500              | 11.75                        |
| \$0.32-\$11.75           | 3,538,332          | 4.31   | \$1.05                       | 3,413,332           | \$1.65                       |

General Stock Appreciation Rights Information

On October 10, 2007, BioTime granted a total of 1,302,030 Stock Appreciation Rights (“SARs”) to two new employees. The SARs have a weighted average exercise price of \$0.50 per share, and are being amortized over five years. As of December 31, 2008, none of the SARs had expired or been forfeited.

7. Commitments and Contingencies

During April 2008, BioTime relocated to Harbor Bay Parkway in Alameda, California under a three year sublease. The sublease includes approximately 11,000 square feet of office and laboratory space and will expire on November 30, 2010. Base monthly rent was \$22,000 during 2008 increasing to \$22,600 during 2009, and to \$23,340 during 2010. In addition to base rent, BioTime pays a pro rata share of real property taxes and certain costs related to the operation and maintenance of the building in which the subleased premises are located.

BioTime still makes payments on its lease of office and laboratory space at Heritage Square in Emeryville, California. The lease will expire on May 31, 2010, with a five year extension option. This lease includes approximately 5,244 square feet of space and monthly base rent of approximately \$11,400 during 2008. The rent will increase by 3% each lease year during the initial five year term. In addition to rent, BioTime pays its pro rata share of operating expenses and real estate taxes for the building in which its leased space is located or for the Heritage Square project as a whole, as applicable, based upon the ratio that the number of square feet BioTime leases bears to the total number of square feet in the building or project.

Rent expenses totaled \$527,682 and \$189,158 for the years ended December 31, 2008 and 2007, respectively. Remaining minimum annual lease payments under the lease and sublease are as follows:

| Year | Minimum<br>lease<br>payments |
|------|------------------------------|
| 2009 | \$ 411,853                   |
| 2010 | 315,751                      |

Indemnification – Under BioTime’s bylaws, BioTime has agreed to indemnify its officers and directors for certain events or occurrences arising as a result of the officer or director serving in such capacity. The term of the indemnification period is for the officer’s or director’s lifetime. The maximum potential amount of future payments that BioTime could be required to make under the indemnification provisions contained in BioTime’s bylaws is unlimited. However, BioTime has a directors and officers liability insurance policy that limits its exposure and enables it to recover a portion of any future amounts paid. As a result of the insurance policy coverage, BioTime believes the estimated fair value of these indemnification agreements is minimal and no liabilities were recorded for these agreements as of December 31, 2008.

Under the license agreements with Hospira and CJ, BioTime will indemnify Abbott Laboratories (Hospira’s predecessor), Hospira, and/or CJ for any cost or expense resulting from any third party claim or lawsuit arising from alleged patent infringement, as defined, by Abbott, Hospira,

or CJ relating to actions covered by the applicable license agreement. Management believes that the possibility of payments under the indemnification clauses is remote. Therefore, BioTime has not recorded a provision for potential claims as of December 31, 2008. BioTime enters into indemnification provisions under (i) agreements with other companies in the ordinary course of business, typically with business partners, licensees, licensors, contractors, hospitals at which clinical studies are conducted, and landlords, and (ii) agreements with investors, underwriters, investment bankers, and financial advisers. Under these provisions, BioTime generally agrees to indemnify and hold harmless the indemnified party for losses suffered or incurred by the indemnified party as a result of BioTime's activities or, in some cases, as a result of the indemnified party's activities under the agreement. These indemnification provisions often include indemnifications relating to representations made by BioTime with regard to intellectual property rights. These indemnification provisions generally survive termination of the underlying agreement. In some cases, BioTime has obtained liability insurance providing coverage that limits its exposure for indemnified matters. The maximum potential amount of future payments that BioTime could be required to make under these indemnification provisions is unlimited. BioTime has not incurred material costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, BioTime believes the estimated fair value of these agreements is minimal. Accordingly, BioTime has no liabilities recorded for these agreements as of December 31, 2008.

## 8. Income Taxes

The primary components of the net deferred tax assets at December 31, 2008 and 2007 were as follows:

|  | Year Ended December 31, |               |
|--|-------------------------|---------------|
|  | 2008                    | 2007          |
| Deferred tax assets:                     |                         |               |
| Net operating loss carryforwards         | \$ 16,760,000           | \$ 16,198,000 |
| Research & development and other credits | 1,935,000               | 1,797,000     |
| Other, net                               | 1,276,000               | 1,001,000     |
| Total                                    | 19,971,000              | 18,996,000    |
| Valuation allowance                      | (19,971,000)            | (18,996,000)  |
| Net deferred tax assets                  | \$ -0-                  | \$ -0-        |

Income taxes differed from the amounts computed by applying the U.S. federal income tax of 34% to pretax losses from operations as a result of the following:

| Year Ended December 31,                                  | 2008  | 2007  |
|--|-------|-------|
| Computed tax benefit at federal statutory rate           | (34%) | (34%) |
| Permanent differences                                    | 8%    | 4%    |
| Losses for which no benefit has been recognized          | 34%   | 39%   |
| State tax benefit, net of effect on federal income taxes | (6%)  | (6%)  |
| Research and development and other credits               | (2%)  | (3%)  |
|  | 0%    | 0%    |

No tax benefit has been recorded through December 31, 2008 because of the net operating losses incurred and a full valuation allowance has been provided. A valuation allowance is provided when it is more likely than not that some portion of the deferred tax assets will not be realized. BioTime established a 100% valuation allowance for all periods presented due to the uncertainty of realizing future tax benefits from its net operating loss carryforwards and other

deferred tax assets.

As of December 31, 2008, BioTime has net operating loss carryforwards of approximately \$46,580,000 for federal and \$15,818,000 for state tax purposes, which expire through 2028. In addition, BioTime has tax credit carryforwards for federal and state tax purposes of \$1,088,000 and \$846,000, respectively, which expire through 2028.

Internal Revenue Code Section 382 places a limitation (the “Section 382 Limitation”) on the amount of taxable income that can be offset by net operating loss (“NOL”) carryforwards after a change in control (generally greater than 50% change in ownership within a three-year period) of a loss corporation. California has similar rules. Generally, after a control change, a loss corporation cannot deduct NOL carryforwards in excess of the Section 382 Limitation. Due to these “change in ownership” provisions, utilization of the NOL and tax credit carryforwards may be subject to an annual limitation regarding their utilization against taxable income in future periods.

## 9. Enterprise-wide Disclosures

### Geographic Area Information

Revenues, including license fees and royalties, by geographic area are based on the country of domicile of the counterparty to the agreement.

| Year ending December 31, | 2008         | 2007         |
|--------------------------|--------------|--------------|
| Revenues                 |              |              |
| Domestic                 | \$ 1,225,793 | \$ 790,572   |
| Asia                     | 277,999      | 255,549      |
| Total revenues           | \$ 1,503,792 | \$ 1,046,121 |

All of BioTime’s assets are located at its Alameda, California facility.

## Major Customers

BioTime has two major customers comprising significant amounts of total revenues as follows:

| Year ended December 31,<br>% of Total Revenues | 2008 | 2007 |
|--|------|------|
| Hospira  | 80%  | 74%  |
| CJ Corp  | 8.8% | 10%  |

## 10. Subsequent Events

During January and February 2009, BioTime received \$1,380,000 under the Fourth Amendment to the Credit Agreement. BioTime issued 36,942 common shares equivalent in value to 6% of the Credit Agreement amounts committed and received in January and February 2009.

In March 2009, BioTime amended its license agreement with the Wisconsin Alumni Research Foundation (“WARF”). The amendment increased the license fee from \$225,000 to \$295,000, of which \$225,000 is payable in cash and \$70,000 is payable by delivering BioTime common shares having a market value of \$70,000 as of March 2, 2009. The amendment extends until March 2, 2010 the dates for payment of the \$215,000 balance of the cash license fee and \$20,000 in remaining reimbursement of costs associated with preparing, filing and maintaining the Licensed Patents by WARF to January 3, 2010. The commencement date for payment of the annual \$25,000 license maintenance fee has also been extended to March 2, 2010.

On January 12, 2009, BioTime issued warrants to an individual to purchase 25,000 common shares at an exercise price of \$2.00 per common share. These warrants expire on October 31, 2010.

In January 2009, 60,000 BioTime common shares became issuable to Greenbelt Corp for the deferral of its first and second installment of cash fees of \$45,000 each on July 1, 2008 and on October 1, 2008 in accordance with its Financial Advisor Agreement dated March 31, 2008. The value of these shares is recognized in BioTime’s financial statements as of December 31, 2008.

In January 2009, BioTime received royalties in the amount of \$201,134 from Hospira based on sales of Hextend made by Hospira in the fourth quarter of 2008. This revenue will be reflected in BioTime’s consolidated financial statements for the first quarter of 2009.

In January 2009, BioTime received royalties in the amount of \$18,761 from CJ based on sales of Hextend sales made by CJ in the fourth quarter of 2008. This revenue will be reflected in BioTime’s consolidated statements for the first quarter of 2009.

In February 2009, BioTime received \$83,750 from the exercise of 57,500 options by directors of the Company.

On February 23, 2009, BioTime’s wholly owned subsidiary, Embryome Sciences, entered into a Stem Cell Agreement with Reproductive Genetic Institute (“RGI”). In partial consideration of the rights and licenses granted to Embryome Sciences by RGI, BioTime agreed to issue to RGI 32,259 common shares of BioTime stock, which was equal to \$50,000 worth of such common shares on the Effective Date of the Stem Cell Agreement.

As of February 27, 2009, \$3,380,000 had been received by BioTime under the Credit Agreement. Also as of that date, one lender had converted \$50,000 of BioTime's Credit Agreement debt to him into BioTime common shares; leaving an outstanding loan balance of \$3,330,000 under the Credit Agreement.

#### Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

#### Item 9A(T). Controls and Procedures

##### Evaluation of Disclosure Controls and Procedures

It is management's responsibility to establish and maintain adequate internal control over all financial reporting pursuant to Rule 13a-15 under the Securities Exchange Act of 1934 (the "Exchange Act"). Our management, including our principal executive officer, our principal operations officer, and our principal financial officer, have reviewed and evaluated the effectiveness of our disclosure controls and procedures as of a date within ninety (90) days of the filing date of this Form 10-K annual report. Following this review and evaluation, management collectively determined that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to management, including our chief executive officer, our chief operations officer, and our chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

##### Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the period covered by this Annual Report on Form 10-K that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

##### Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting, as defined in Exchange Act Rule 13a-15(f), is a process designed by, or under the supervision of, our principal executive officer, our principal operations officer, and our principal financial officer, and effected by our Board of Directors, management, and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.



Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. The scope of management's assessment of the effectiveness of internal control over financial reporting includes our consolidated subsidiary.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2008. Based on this assessment, management believes that, as of that date, our internal control over financial reporting was effective.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit us to provide only management's report in this annual report.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

Directors

The names and ages of our directors are as follows:

Michael D. West, Ph.D., 55, became our Chief Executive Officer during October 2007, and has served on the Board of Directors since 2002. Dr. West is Adjunct Professor of Bioengineering at the University of California, Berkeley. Dr. West has extensive academic and business experience in age-related degenerative diseases, telomerase molecular biology and human embryonic stem cell research and development. Prior to becoming our Chief Executive Officer, Dr. West served as President and Chief Scientific Officer of Advanced Cell Technology, Inc., a company he founded in 1998, that is engaged in developing human stem cell technology for use in regenerative medicine. Dr. West also founded Geron Corporation of Menlo Park, California, and from 1990 to 1998 he was a Director and Vice President, where he initiated and managed programs in telomerase diagnostics, oligonucleotide-based telomerase inhibition as anti-tumor therapy, and the cloning and use of telomerase in telomerase-mediated therapy wherein telomerase is utilized to immortalize human cells. From 1995 to 1998 he organized and managed the research between Geron and its academic collaborators James Thomson and John Gearhart that led to the first isolation of human embryonic stem and human embryonic germ cells. Dr. West received a B.S. Degree from Rensselaer Polytechnic Institute in 1976, an M.S. Degree in Biology from Andrews University in 1982, and a Ph.D. from Baylor College of Medicine in 1989 concentrating on the biology of cellular aging.

Hal Sternberg, Ph.D., 55, is our Vice President of Research, and has served on the Board of Directors since 1990. Dr. Sternberg was a visiting scientist and research Associate at the University of California at Berkeley from 1985-1988, where he supervised a team of researchers studying Alzheimer's Disease. Dr. Sternberg received his Ph.D. from the University of Maryland in Biochemistry in 1982.

Harold Waitz, Ph.D., 66, is our Vice President of Engineering and Regulatory Affairs, and has served on the Board of Directors since 1990. He received his Ph.D. in Biophysics and Medical Physics from the University of California at Berkeley in 1983.

Judith Segall, 55, is our Vice President-Administration and Secretary, and has served on the Board of Directors from 1990 through 1994, and from 1995 through the present date. Ms. Segall received a B.S. in Nutrition and Clinical Dietetics from the University of California at Berkeley in 1989.

Valeta Gregg, 55, joined the Board of Directors during October 2004. Ms. Gregg is Vice President and Assistant General Counsel, Patents of Regeneron Pharmaceuticals, Inc., a Tarrytown, New York based company engaged in the development of pharmaceutical products for the treatment of a number of serious medical conditions, including cancer, diseases of the eye, rheumatoid arthritis and other inflammatory conditions, allergies, asthma, and obesity. Prior to joining Regeneron in 2002, Ms. Gregg worked as a patent attorney, at Klauber & Jackson in Hackensack, New Jersey from 2001 to 2002, and for Novo Nordisk A/S and

its United States subsidiary from 1996 to 2001, and for Fish & Richardson, P.C., Menlo Park, California from 1994 to 1996. Ms. Gregg received her law degree from University of Colorado School of Law in 1992 and received a Ph.D in Biochemistry from the University of Alberta in 1982.

Robert N. Butler, MD, 82, joined the Board of Directors during July 2008. Dr. Butler is the founder, Chief Executive Officer, and President of the International Longevity Center-USA, a non-profit international research, policy, and education organization formed to educate individuals on how to live longer and better, and advise society on how to maximize the benefits of today's age boom. Dr. Butler was the first director of the National Institute on Aging of the National Institutes of Health, where he helped educate the nation about the dangers of Alzheimer's disease. At the Mount Sinai School of Medicine, he founded the nation's first department of geriatrics where he is Professor of Geriatrics and Adult Development. Dr. Butler won the Pulitzer Prize for his book *Why Survive? Being Old in America* and is co-author with Myrna I. Lewis of *Aging and Mental Health* as well as *The New Love and Sex after 60*. His latest book is *The Longevity Revolution*.

#### Executive Officers

Michael West, Robert Peabody, Hal Sternberg, Harold Waitz, Judith Segall, and Steven Seinberg are our only executive officers. There are no family relationships among our directors or officers.

Robert W. Peabody, CPA, 54, is our Senior Vice President and Chief Operating Officer. Prior to joining BioTime in October 2007, Mr. Peabody served as Vice President-Grant Administration for Advanced Cell Technology, Inc., and also served on their board of directors from 1998 to 2006. Prior to joining ACT, Mr. Peabody spent 14 years as a Regional Controller for Ecolab, Inc., a Fortune 500 specialty chemical manufacturer and service company. Mr. Peabody, along with Dr. West, was a co-founder of Geron Corporation of Menlo Park, Ca. He has also been an audit manager for Ernst and Young where he was on the audit staff serving the firm's clients whose shares are publicly traded. Mr. Peabody received a Bachelor Degree in Business Administration from the University of Michigan and is a Certified Public Accountant.

Steven A. Seinberg, J.D., 42, has been our Chief Financial Officer and Treasurer since August 2001. Prior to assuming these positions, Mr. Seinberg worked for over five years as BioTime's Director of Financial and Legal Research, a position that involved, among other duties, contract modifications and management of our intellectual property portfolio. Mr. Seinberg received a J.D. from Hastings College of the Law in San Francisco in 1994.

## Committees of the Board

We do not have a standing Audit Committee, Nominating Committee, or Compensation Committee. Nominees to the Board of Directors are selected by the entire Board.

## Attendance At Board Meetings

During the fiscal year ended December 31, 2008, our Board of Directors met six times. No director attended fewer than 75% of the meetings of the Board or any committee on which they served.

## Compliance with Section 16(a) of the Securities Exchange Act of 1934

Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), requires our directors and executive officers and persons who own more than ten percent (10%) of a registered class of our equity securities to file with the Securities and Exchange Commission (the "SEC") initial reports of ownership and reports of changes in ownership of common shares and other BioTime equity securities. Officers, directors and greater than ten percent beneficial owners are required by SEC regulations to furnish us with copies of all reports they file under Section 16(a).

To our knowledge, based solely on our review of the copies of such reports furnished to us, all Section 16(a) filing requirements applicable to our officers, directors, and greater than ten percent beneficial owners were complied with during the fiscal year ended December 31, 2008, except that a total of thirteen Forms 4 filed on behalf of Alfred D. Kingsley (three late filings), Gary K. Duberstein (three late filings), Greenbelt Corp. (two late filings), Greenway Partners LP (two late filings), Broadwood Partners LP (two late filings), and Valeta Gregg (one late filing) were filed late. There were no known failures to file any required reports.

## Code of Ethics

We have adopted a Code of Ethics that applies to our principal executive officer, our principal financial officer and accounting officer, our other executive officers, and our directors. The purpose of the Code of Ethics is to promote (i) honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; (ii) full, fair, accurate, timely and understandable disclosure in reports and documents that we file with or submit to the Securities and Exchange Commission and in our other public communications; (iii) compliance with applicable governmental rules and regulations, (iv) prompt internal reporting of violations of the Code to an appropriate person or persons identified in the Code; and (v) accountability for adherence to the Code. A copy of our Code of Ethics has been posted on our internet website and can be found at [www.biotimeinc.com](http://www.biotimeinc.com).

Item 11. Executive Compensation

During October 2007, we entered into an employment agreement with our Chief Executive Officer, Dr. Michael West, pursuant to which he is entitled to receive an annual salary of \$250,000, an annual bonus equal to the lesser of (A) \$65,000 or (B) the sum of 65% of Consulting Fees and 6.5% of Grant Funds we receive during each fiscal year; provided that (x) we obtained the grant that is the source of the Grant Funds during the term of his employment, (y) the grant that is the source of the Grant Funds is not a renewal, extension, modification, or novation of a grant (or a new grant to fund the continuation of a study funded by a prior grant from the same source) obtained by us prior to his employment, and (z) the grant that is the source of the Grant Funds was not obtained by us substantially through the efforts of any consultant or independent contractor compensated by us for obtaining the grant. Grant Funds means money actually paid to us during a fiscal year as a research grant by any federal or state government agency or any not for profit non-government organization, and expressly excludes (1) license fees, (2) royalties, (3) Consulting Fees, (4) capital contributions to us or any of our subsidiaries, or any joint venture of any kind (regardless of the legal entity through which the joint venture is conducted) to which we are a party, and (5) any other payments received by us from a business or commercial enterprise for research and development of products or technology pursuant to a contract or agreement for the commercial development of a product or technology. Consulting Fees means money we receive under a contract that entitles us to receive a cash fee for providing scientific and technical advice to third parties concerning stem cells.

Dr. West was granted an option to purchase 1,500,000 common shares (the AOption@) under the 2002 Plan. The Option is paired with stock appreciation rights ("SARs") with respect to 976,500 shares. The exercise price of the Option and the SARs is \$0.50. The Option and the SARs will vest (as thereby become exercisable) at the rate of 1/60th of the number of Option shares or SARs at the end of each full month of employment. Vesting will depend on Dr. West's continued employment by us through the applicable vesting date, and will be subject to the terms and conditions of the 2002 Plan and a Stock Option Agreement consistent with the 2002 Plan and Dr. West's Employment Agreement. The unvested portion of the Option and the SARs shall not be exercisable.

The vested portion of the Option and the SARs shall expire on the earliest of (A) seven (7) years from the date of grant, (B) three months after Dr. West ceases to be employed by us for any reason other than his death or disability, or (C) one year after he ceases to be employed by us due to his death or disability; provided that if he dies during the three month period described in clause (B), the expiration date of the vested portion of the Option shall be one year after the date of his death. In addition, (X) if the SAR is exercised, the vested portion of the Option shall expire as to a number of shares for which the SAR was exercised, and (Y) the vested and unvested portion of the SARs shall expire when our shareholders approve an amendment to the 2002 Plan increasing the number of common shares available under the 2002 Plan from 2,000,000 to 4,000,000 shares. The Option and the SARs, respectively, shall not be exercisable after it has expired.

The SARs may not be exercised, in whole or in part, until the vested portion of the Option has been exercised in full. A vested SAR may be exercised by delivering a written notice to us specifying the number of SAR shares being exercised. Upon exercise of an SAR, Dr. West shall be entitled to receive a payment of cash per SAR share

exercised equal to the amount by which the fair market value of a BioTime common share on the date of exercise exceeds the exercise price of the SAR. The fair market value of a BioTime common share shall be determined by the Board of Directors in the manner provided in the 2002 Plan. SARs may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised only by Dr. West during his lifetime.

In the event that Dr. West's employment is terminated for "cause," as defined in his Employment Agreement, or as a result of his death or disability, or his resignation, he will be entitled to receive payment for all unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of his termination of employment.

If we terminate Dr. West's employment without "cause," he will be entitled to additional benefits, consisting of payment of either three months base salary, if he was employed by us for less than two years, or six months base salary if he was employed by us for at least two years. In addition, 50% of the then unvested shares subject to Dr. West's Option will vest if he was employed by us for at least two years. However, if a termination of Dr. West's employment without "cause" occurs within twelve months following a "Change in Control," Dr. West will be entitled to four months base salary if he was employed by us for less than two years, or twelve months base salary if he was been employed by us for at least two years; and 50% of the then unvested shares subject to Dr. West's Option will vest if he was been employed for less than two years, or one 100% of the then unvested shares subject to his Option if he was employed for at least two years.

"Change of Control" means (A) the acquisition of our voting securities by a person or an Affiliated Group entitling the holder to elect a majority of our directors; provided, that an increase in the amount of voting securities held by a person or Affiliated Group who on the date of the Employment Agreement owned beneficially owned (as defined in Section 13(d) of the Securities Exchange Act of 1934, as amended, and the regulations thereunder) more than 10% of our voting securities shall not constitute a Change of Control; and provided, further, that an acquisition of voting securities by one or more persons acting as an underwriter in connection with a sale or distribution of voting securities shall not constitute a Change of Control, (B) the sale of all or substantially all of our assets; or (C) a merger or consolidation in which we merge or consolidate into another corporation or entity in which our stockholders immediately before the merger or consolidation do not own, in the aggregate, voting securities of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity) entitling them, in the aggregate (and without regard to whether they constitute an Affiliated Group) to elect a majority of the directors or persons holding similar powers of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity). A Change of Control shall not be deemed to have occurred if all of the persons acquiring our voting securities or assets or merging or consolidating with us are one or more of our direct or indirect subsidiary or parent corporations. "Affiliated Group" means (A) a person and one or more other persons in control of, controlled by, or under common control with such person; and (B) two or more persons who, by written agreement among them, act in concert to acquire voting securities entitling them to elect a majority of our directors. "Person" includes both people and entities.

The following table summarizes certain information concerning the compensation paid during the past two fiscal years to our Chief Executive Officer and our Senior Vice-President and Chief Operating Officer, who were our only executive officers whose compensation exceeded \$100,000 during 2008:

## SUMMARY COMPENSATION TABLE

| Name and principal position  | Year | Salary     | Bonus | Stock awards | Option awards | Nonequity incentive plan compensation | Nonqualified deferred earnings | All other compensation | Total      |
|--|------|------------|-------|--------------|---------------|---------------------------------------|--------------------------------|------------------------|------------|
| Michael D. West<br>Chief Executive Officer                             | 2008 | \$ 250,000 | \$ —  | \$ —         | \$ —          | \$ —                                  | \$ —                           | 24,500                 | \$ 274,500 |
|  | 2007 | \$ 62,500  | \$ —  | \$ —         | 9,819         | \$ —                                  | \$ —                           | \$ —                   | \$ 72,319  |
| Robert W. Peabody<br>Senior Vice President and Chief Operating Officer | 2008 | \$ 160,000 | \$ —  | \$ —         | \$ —          | \$ —                                  | \$ —                           | 8,000                  | \$ 168,000 |
|  | 2007 | \$ 40,000  | \$ —  | \$ —         | 3,273         | \$ —                                  | \$ —                           | \$ —                   | \$ 43,273  |

See Note 6 to consolidated financial statements for information regarding the valuation of option and SAR awards.

## Stock Options

The following table summarizes certain information concerning stock options held as of December 31, 2008 by our Chief Executive Officer and our Senior Vice-President and Chief Operating Officer, who were our only executive officers whose compensation exceeded \$100,000 during 2008:

## OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END

| Name         | Option Awards   |   |                       |                        |
|--------------|---|---|-----------------------|------------------------|
|              | Number of Securities Underlying Unexercised Options Exercisable | Number of Securities Underlying Unexercised Options Unexercisable | Option Exercise Price | Option Expiration Date |
| Michael West | 20,000(1)   |   | \$2.17                | March 7, 2009          |

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|                   |            |           |        |                 |
|-------------------|------------|-----------|--------|-----------------|
|                   | 20,000(1)  |           | \$1.26 | March 20, 2010  |
|                   | 20,000(1)  |           | \$0.34 | March 27, 2011  |
|                   | 20,000(1)  |           | \$0.74 | June 1, 2014    |
|                   | 350,000(2) | 1,150,000 | \$0.50 | October 9, 2014 |
| Robert W. Peabody | 116,662(3) | 383,338   | \$0.50 | October 9, 2014 |

- (1) These options were granted to Dr. West during his service as a non-employee director.
- (2) These options become exercisable at the rate of 25,000 per month during the term of Dr. West's employment.
- (3) These options become exercisable at the rate of 8,333 per month during the term of Mr. Peabody's employment.



## Compensation of Directors

During 2007, the two directors who were not then employees each received options to purchase 20,000 common shares exercisable at \$0.74 per share, which was the closing price of the common shares reported on the OTCBB on April 30, 2007. The options granted to these directors vested and became exercisable in equal quarterly installments based on continued service on the Board of Directors. Directors and members of committees of the Board of Directors who are employees are not compensated for serving as directors or attending meetings of the Board or committees of the Board. Directors are entitled to reimbursements for their out-of-pocket expenses incurred in attending meetings of the Board or committees of the Board. Directors who are our employees are also entitled to receive compensation as employees.

The following table summarizes certain information concerning the compensation paid during the past fiscal year to each of the current members of the Board of Directors who were not our employees on the date the compensation was awarded. Dr. West became our Chief Executive Officer during October 2007.

## DIRECTOR COMPENSATION

| Name                        | Fees Earned or Paid In<br>Cash | Option<br>Awards | Total     |
|-----------------------------|--------------------------------|------------------|-----------|
| V a l e t a<br>Gregg(1)     | --                             | \$ 7,710         | \$ 7,710  |
| R o b e r t N.<br>Butler(2) | --                             | \$ 13,098        | \$ 13,098 |

(1) At December 31, 2008 Valeta Gregg held options to purchase 78,332 common shares at exercise prices ranging from \$0.34 to \$1.26 per share.

(2) At December 31, 2008 Dr. Robert Butler held options to purchase 25,000 common shares at an exercise price of \$0.68 per share.

## Insider Participation in Compensation Decisions

Our Board of Directors does not have a standing Compensation Committee. Instead, the Board of Directors as a whole approves all executive compensation. Executive officers who also serve on the Board of Directors do not vote on matters pertaining to their own personal compensation.

## Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The following table sets forth information as of March 1, 2009 concerning beneficial ownership of common shares by each shareholder known by us to be the beneficial owner of 5% or more of our common shares. Information concerning certain beneficial owners of more than 5% of the common shares is based upon information disclosed by such owners in their reports on Schedule 13D or Schedule 13G.

## Security Ownership of Certain Beneficial Owners

|   | Number of<br>Shares | Percent of<br>Total |
|---|---------------------|---------------------|
| Alfred D. Kingsley(1)<br>Gary K. Duberstein<br>Greenbelt Corp.<br>Greenway Partners,<br>L.P.<br>Greenhouse<br>Partners, L.P.<br>150 E. 57th Street,<br>Suite 24E<br>New York, New<br>York 10022 | 10,128,364          | 36.0%               |
| Neal C. Bradsher(2)<br>Broadwood<br>Partners, L.P.<br>Broadwood Capital,<br>Inc.<br>724 Fifth Avenue,<br>9th Floor<br>New York, NY<br>10019   | 3,216,311           | 12.1%               |

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(1) Includes 2,076,698 shares presently owned by Greenbelt Corp, 334,632 shares that may be acquired by Greenbelt Corp. upon the exercise of certain warrants, 350,265 shares owned by Greenway Partners, L.P., 304,951 shares that may be acquired by Greenway Partners, L.P. upon the exercise of certain warrants, 4,778,193 shares owned solely by Alfred D. Kingsley, 2,270,689 shares that may be acquired by Mr. Kingsley upon the exercise of warrants, 12,256 shares owned solely by Gary K. Duberstein, and 680 shares that may be acquired by Mr. Duberstein upon the exercise of certain warrants. Does not include shares that Mr. Kingsley may acquire at \$1.25 per share in exchange for certain promissory notes in the principal amount of \$250,000, plus accrued interest. Does not include shares that Greenway may acquire at \$1.25 per share in exchange for certain promissory notes in the principal amount of \$300,000, plus accrued interest. Mr. Kingsley and Mr. Duberstein control Greenbelt Corp. and may be deemed to beneficially own the warrants and shares that Greenbelt Corp. beneficially owns. Greenhouse Partners, L.P. is the general partner of Greenway Partners, L.P., and Mr. Kingsley and Mr. Duberstein are the general partners of Greenhouse Partners,

L.P. Greenhouse Partners, L.P., Mr. Kingsley, and Mr. Duberstein may be deemed to beneficially own the shares that Greenway Partners, L.P. owns. Mr. Duberstein disclaims beneficial ownership of the shares and warrants owned solely by Mr. Kingsley, and Mr. Kingsley disclaims beneficial ownership of the shares owned solely by Mr. Duberstein.

(2) Includes 1,796,010 shares owned by Broadwood Partners, L.P., 1,377,393 shares that may be acquired by Broadwood Partners, L.P. upon the exercise of certain warrants, 37,358 shares owned by Neal C. Bradsher, and 5,550 shares that may be acquired by Mr. Bradsher upon the exercise of certain warrants. Broadwood Capital, Inc. is the general partner of Broadwood Partners, L.P., and Mr. Bradsher is the President of Broadwood Capital, Inc. Mr. Bradsher and Broadwood Capital, Inc. may be deemed to beneficially own the shares that Broadwood Partners, L.P. owns.

## Security Ownership of Management

The following table sets forth information as of March 1, 2009 concerning beneficial ownership of common shares by each member of the Board of Directors, certain executive officers, and all officers and directors as a group.

|  | Number of<br>Shares | Percent of<br>Total |
|--|---------------------|---------------------|
| Michael D. West(1)                                   | 530,000             | 2.0%                |
| Judith Segall(2)                                     | 712,669             | 2.8%                |
| Hal Sternberg(3)                                     | 410,201             | 1.6%                |
| Harold D. Waitz(4)                                   | 338,625             | 1.3%                |
| Valeta Gregg(5)                                      | 78,332              | *                   |
| Robert N. Butler, M.D.(6)                            | 25,000              | *                   |
| Robert W. Peabody(7)                                 | 149,994             | *                   |
| Steven A. Seinberg(8)                                | 105,000             | *                   |
| All officers and directors as a group (8 persons)(9) | 2,349,822           | 8.8%                |

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\* Less than 1%

(1) Includes 530,000 shares that may be acquired upon the exercise of certain stock options that are presently exercisable or that may become exercisable within 60 days. Excludes 1,050,000 shares that may be acquired upon the exercise of certain stock options that are not presently exercisable and that will not become exercisable within 60 days.

(2) Includes 255,000 shares that may be acquired upon the exercise of certain stock options, and 45,337 shares that may be acquired upon the exercise of certain warrants.

(3) Includes 130,000 shares that may be acquired upon the exercise of certain options and 25,931 shares that may be acquired upon the exercise of certain warrants.

(4) Includes 2,952 shares held for the benefit of Dr. Waitz's children, 130,000 shares that may be acquired by Dr. Waitz upon the exercise of certain stock options, 38,379 shares that may be acquired by Dr. Waitz upon the exercise of certain warrants (including 720 warrants held for the benefit of Dr. Waitz's children).

(5) Includes 78,332 shares that may be acquired upon the exercise of certain options.

(6) Includes 25,000 shares that may be acquired upon the exercise of certain option.

(7) Includes 149,994 shares that may be acquired upon the exercise of certain stock options that are presently exercisable or that may become exercisable within 60 days. Excludes 350,006 shares that may be acquired upon the exercise of certain stock options that are not presently exercisable and that will not become exercisable within 60 days.

(8) Includes 105,000 shares that may be acquired upon the exercise of certain options.

(9) Includes 1,513,693 shares that may be acquired upon the exercise of certain options and warrants. Excludes certain shares that may be acquired upon the exercise of certain options that are not presently exercisable and will not become exercisable within 60 days.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Certain Transactions

During April 1998, we entered into a financial advisory services agreement with Greenbelt Corp., a corporation controlled by Alfred D. Kingsley and Gary K. Duberstein, who are also BioTime shareholders. The agreement has been renewed annually. We paid Greenbelt \$90,000 in cash and issued 200,000 common shares for services rendered for the twelve months ending March 31, 2007. Greenbelt permitted us to defer until October 2007 paying certain cash fees that otherwise would have been payable earlier in the year. In return for allowing the deferral, we issued Greenbelt an additional 60,000 common shares. For the 2008 calendar year, we agreed to pay Greenbelt \$135,000 in cash and to issue 300,000 common shares. Greenbelt permitted us to defer paying the entire \$135,000 cash fee until January 2009. In return for allowing the deferral, we issued Greenbelt an additional 60,000 common shares during January 2009. We have agreed to file a registration statement, at our expense, to register Greenbelt's shares for sale under the Securities Act of 1933, as amended, upon Greenbelt's request. We also agreed to indemnify Greenbelt and its officers, affiliates, employees, agents, assignees, and controlling person from any liabilities arising out of or in connection with actions taken on our behalf under the agreement.

During April 2006, we entered into a Revolving Line of Credit Agreement (the "Credit Agreement") with Alfred D. Kingsley, Cyndel & Co., Inc., and George Karfunkel under which we could borrow up to \$500,000 for working capital purposes at an interest rate of 10% per annum. In consideration for making the line of credit available, we issued to the lenders a total of 99,999 common shares.

In October 2007, the Credit Agreement was amended to increase the line of credit to \$1,000,000, to increase the interest rate to 12% per annum, and to extend the maturity date to April 30, 2008. The loan payable to Cyndel & Co., Inc. was paid in full, and Broadwood Partners, LP joined the lender group. In consideration for extending the maturity date of the new line of credit, we issued to the lenders a total of 200,000 common shares.

The Credit Agreement was amended again during March and November 2008 when additional lenders, including Greenway Partners, L.P., joined the lender group and the amount of the line of credit was increased and the maturity date was extended. Additional information concerning the Credit Agreement can be found in "Management's Discussion and Analysis or Plan of Operation—Liquidity and Capital Resources" and Note 3 and Note 10 to our Financial Statements.

As of February 27, 2009, we had received loans in the amount of \$1,025,000 from Broadwood Partners, L.P., \$250,000 from Alfred D. Kingsley, and \$300,000 from Greenway Partners, L.P. We made cash payments for interest in the amount of \$44,325 to Broadwood Partners, L.P. and \$11,425 to Alfred D. Kingsley on loans made under the Credit Agreement. Interest accrued for Broadwood Partners, L.P., Alfred D. Kingsley, Greenway Partners, L.P. as of December 31, 2008 was \$8,250, \$20,000, and \$19,183, respectively, which will be payable on April 15, 2009, which is the maturity date of the loans under the Revolving Line of Credit.

During 2008, we issued a warrant to purchase 100,000 of our common shares at an exercise price of \$2.00 per share, expiring July 30, 2013, to the International Longevity Center-USA, a non-profit institution for which Robert M. Butler, M.D., serves as President, Chief Executive Officer, and a member of the Board of Directors.

#### Director Independence

Valeta Gregg and Robert N. Butler, MD, are the only members of the Board of Directors who qualify as “independent” in accordance with Section 121(A) of the American Stock Exchange listing standards and Section 10A-3 under the Securities Exchange Act of 1934, as amended. The other directors, Michael D. West, Judith Segall, Hal Sternberg, and Harold Waitz do not qualify as “independent” because they are our full time employees and executive officers.

Ms. Gregg served on the BioTime Audit Committee, Nominating Committee and Compensation Committee during 2007. The only compensation or remuneration that BioTime has provided to Ms. Gregg and Dr. Butler during their tenure as directors has been compensation as non-employee directors. Ms. Gregg, Dr. Butler, and the members of their families have not participated in any transaction with us that would disqualify them as “independent” directors under the standard described above.

#### Item 14. Principal Accounting Fees and Services

Rothstein, Kass and Company (“RKCO”) audited our annual financial statements for the fiscal years ended December 31, 2007 and December 31, 2008.

**Audit Fees.** RKCO billed us \$95,000 in 2007 and \$102,500 in 2008 for the audit of our annual financial statements and for the review of our financial statements included in our quarterly reports on Form 10-QSB and Form 10-Q.

**Audit-Related Fees.** BDO Seidman, our previous independent auditing firm, billed us \$20,466 for audit-related fees during the fiscal year ended December 31 2007. These fees were incurred in connection with the reissuance of BDO’s report on our fiscal year 2005 financial statements in conjunction with the filing of our 2006 10-KSB. There were no other audit-related fees charged to us by RKCO during the fiscal years ended December 31, 2007 and 2008.

**Tax Fees.** RKCO billed us \$6,000 and \$6,500, respectively, for review and preparation of U.S. federal, state, and local tax returns during the fiscal years ended December 31, 2007 and December 31, 2008, respectively.

**Other Fees.** There were no other fees charged to us by RKCO during the fiscal years ended December 31, 2007 and 2008.

The prior approval of the Board of Directors is required for the engagement of our auditors to perform any non-audit services for us. Other than de minimis services incidental to audit services, non-audit services shall generally be limited to tax services such as advice and planning and financial due diligence services. All fees for such non-audit services must be approved by the Board of Directors, except to the extent otherwise permitted by applicable SEC regulations.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a-1) Financial Statements.

The following financial statements of BioTime, Inc. are filed in the Form 10-K:

Consolidated balance sheets  
Consolidated statements of operations  
Consolidated statements of shareholders' deficit  
Consolidated statements of cash flows

Notes to Financial Statements

(a-2) Financial Statement Schedules

All schedules are omitted because the required information is inapplicable or the information is presented in the financial statements or the notes thereto.

(a-3) Exhibits.

Exhibit

| Exhibit Numbers | Description   |
|-----------------|---|
| 3.1             | Articles of Incorporation.†   |
| 3.2             | Amendment of Articles of Incorporation.***  |
| 3.3             | By-Laws, As Amended.#   |
| 4.1             | Specimen of Common Share Certificate.+  |
| 4.2             | Form of Warrant Agreement between BioTime, Inc. and American Stock Transfer & Trust Company++                 |
| 4.3             | Form of Amendment to Warrant Agreement between BioTime, Inc. and American Stock Transfer & Trust Company. +++ |



- 4.4 Form of Warrant+++
- 10.1 Intellectual Property Agreement between BioTime, Inc. and Hal Sternberg.+
- 10.2 Intellectual Property Agreement between BioTime, Inc. and Harold Waitz.+
- 10.3 Intellectual Property Agreement between BioTime, Inc. and Judith Segall.+
- 10.4 Intellectual Property Agreement between BioTime, Inc. and Steven Seinberg.\*
- 10.5 Agreement between CMSI and BioTime Officers Releasing Employment Agreements, Selling Shares, and Transferring Non-Exclusive License.+
- 10.6 Agreement for Trans Time, Inc. to Exchange CMSI Common Stock for BioTime, Inc. Common Shares.+
- 10.7 2002 Stock Option Plan, as amended.##
- 10.8 Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).###
- 10.9 Modification of Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).^
- 10.10 Exclusive License Agreement between BioTime, Inc. and CJ Corp.\*\*
- 10.11 Hextend and PentaLyte Collaboration Agreement between BioTime, Inc. and Summit Pharmaceuticals International Corporation.‡
- 10.12 Lease dated as of May 4, 2005 between BioTime, Inc. and Hollis R& D Associates ‡‡
- 10.13 Addendum to Hextend and PentaLyte Collaboration Agreement Between BioTime Inc. And Summit Pharmaceuticals International Corporation‡‡‡
- 10.14 Amendment to Exclusive License Agreement Between BioTime Inc. and Hospira, Inc.††
- 10.15 Hextend and PentaLyte China License Agreement Between BioTime, Inc. and Summit Pharmaceuticals International Corporation.†††
- 10.16 Revolving Credit Line Agreement between BioTime, Inc, Alfred D. Kingsley, Cyndel & Co., Inc., and George Karfunkel, dated April 12, 2006.††††
- 10.17 Security Agreement executed by BioTime, Inc., dated April 12, 2006.††††

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- 10.18 Form of Revolving Credit Note of BioTime, Inc. in the principal amount of \$166,666.67 dated April 12, 2006.††††
- 10.19 First Amended and Restated Revolving Line of Credit Agreement, dated October 17, 2007. #####
- 10.20 Form of Amended and Restated Revolving Credit Note. #####
- 10.21 Form of Revolving Credit Note. #####
- 10.22 First Amended and Restated Security Agreement, dated October 17, 2007. #####
- 10.23 Employment Agreement, dated October 10, 2007, between BioTime, Inc. and Michael D. West.++++
- 10.24 Commercial License and Option Agreement between BioTime and Wisconsin Alumni Research Foundation.\*\*\*\*\*
- 10.25 Second Amended and Restated Revolving Line of Credit Agreement, dated February 15, 2008.‡‡‡‡
- 10.26 Form of Amended and Restated Revolving Credit Note.‡‡‡‡
- 10.27 Second Amended and Restated Security Agreement, dated February 15, 2008.‡‡‡‡
- 10.28 Third Amended and Restated Revolving Line of Credit Agreement, March 31, 2008. ~
- 10.29 Third Amended and Restated Security Agreement, dated March 31, 2008. ~
- 10.30 Sublease Agreement between BioTime, Inc. and Avigen, Inc.++++
- 10.31 License, Product Production, and Distribution Agreement, dated June 19, 2008, among Lifeline Cell Technology, LLC, BioTime, Inc., and Embryome Sciences, Inc. ^^
- 10.32 License Agreement, dated July 10, 2008, between Embryome Sciences, Inc. and Advanced Cell Technology, Inc. ^^
- 10.33 License Agreement, dated August 15, between Embryome Sciences, Inc. and Advanced Cell Technology, Inc. ^^
- 10.34 Sublicense Agreement, dated August 15, between Embryome Sciences, Inc. and Advanced Cell Technology, Inc. ^^
- 10.35 Fourth Amendment of Revolving Line of Credit Agreement.^^
- 10.36 Fourth Amendment of Security Agreement.^^
- 10.37 Stem Cell Agreement, dated February 23, 2009, between Embryome Sciences, Inc. and Reproductive Genetics Institute. ^^
- 10.38 First Amendment of Commercial License and Option Agreement, dated March 11, 2009, between BioTime and Wisconsin Alumni Research Foundation. ^^

- 10.39 Employment Agreement, dated October 10, 2007, between BioTime, Inc. and Robert Peabody.^^^
- 21 List of Subsidiaries of BioTime, Inc.^^^
- 23.1 Consent of Rothstein, Kass & Company, P.C.^^^
- 31 Rule 13a-14(a)/15d-14(a) Certification^^^
- 32 Section 1350 Certification^^^

†Incorporated by reference to BioTime's Form 10-K for the fiscal year ended June 30, 1998.

+ Incorporated by reference to Registration Statement on Form S-1, File Number 33-44549 filed with the Securities and Exchange Commission on December 18, 1991, and Amendment No. 1 and Amendment No. 2 thereto filed with the Securities and Exchange Commission on February 6, 1992 and March 7, 1992, respectively.

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# Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively.

++ Incorporated by reference to Registration Statement on Form S-2, File Number 333-109442, filed with the Securities and Exchange Commission on October 3, 2003, and Amendment No.1 thereto filed with the Securities and Exchange Commission on November 13, 2003.

+++Incorporated by reference to Registration Statement on Form S-2, File Number 333-128083, filed with the Securities and Exchange Commission on September 2, 2005.

## Incorporated by reference to Registration Statement on Form S-8, File Number 333-101651 filed with the Securities and Exchange Commission on December 4, 2002 and Registration Statement on Form S-8, File Number 333-122844 filed with the Securities and Exchange Commission on February 23, 2005.

### Incorporated by reference to BioTime's Form 8-K, filed April 24, 1997.

^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 1999.

\* Incorporated by reference to BioTime's Form 10-K for the year ended December 31, 2001.

\*\* Incorporated by reference to BioTime's Form 10-K/A-1 for the year ended December 31, 2002.

‡ Incorporated by reference to BioTime's Form 8-K, filed December 30, 2004

‡‡ Incorporated by reference to Post-Effective Amendment No. 3 to Registration Statement on Form S-2 File Number 333-109442, filed with the Securities and Exchange Commission on May 24, 2005

‡‡‡ Incorporated by reference to BioTime's Form 8-K, filed December 20, 2005

†† Incorporated by reference to BioTime's Form 8-K, filed January 13, 2006

††† Incorporated by reference to BioTime's Form 8-K, filed March 30, 2006

†††† Incorporated by reference to BioTime's Form 10-K for the year ended December 31, 2005

\*\*\* Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 2006.

\*\*\*\* Incorporated by reference to BioTime's Form 8-K, filed January 9, 2008.

‡‡‡‡ Incorporated by reference to BioTime's Form 8-K, filed March 10, 2008.

~ Incorporated by reference to BioTime's Form 8-K filed April 4, 2008.

++++ Incorporated by reference to BioTime's Form 10-KSB for the year ended December 31, 2007.

^^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 2008.

^^^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended September 30, 2008.

^^^ Filed herewith

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## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized on the 20th day of March, 2009.

BIOTIME, INC.

By: /s/Michael D. West

Michael D. West, Ph.D., Chief Executive Officer

| Signature                                    | Title  | Date           |
|--|--|----------------|
| /s/Michael D. West<br>Michael D. West, Ph.D. | Chief Executive Officer<br>and Director                                    | March 20, 2009 |
| /s/Judith Segall<br>Judith Segall            | Vice President-Administration and<br>Director                              | March 20, 2009 |
| /s/Hal Sternberg<br>Hal Sternberg, Ph.D.     | Vice President-Research and<br>Director                                    | March 20, 2009 |
| /s/Harold D. Waitz<br>Harold D. Waitz, Ph.D. | Vice President-Regulatory<br>Affairs/Quality Control<br>and Director       | March 20, 2009 |
| /s/Steven A. Seinberg<br>Steven A. Seinberg  | Chief Financial Officer<br>(Principal Financial and Accounting<br>Officer) | March 20, 2009 |
| Valeta Gregg, Ph.D.                          | Director   | March __, 2009 |
| Robert N. Butler, M.D.                       | Director   | March __, 2009 |

| Exhibit Numbers | Description   |
|-----------------|---|
| 3.1             | Articles of Incorporation.†   |
| 3.2             | Amendment of Articles of Incorporation.***  |
| 3.3             | By-Laws, As Amended.#   |
| 4.1             | Specimen of Common Share Certificate.+  |
| 4.2             | Form of Warrant Agreement between BioTime, Inc. and American Stock Transfer & Trust Company++   |
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| 10.6            | Agreement for Trans Time, Inc. to Exchange CMSI Common Stock for BioTime, Inc. Common Shares.+  |
| 10.7            | 2002 Stock Option Plan, as amended.##   |
| 10.8            | Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).###               |
| 10.9            | Modification of Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).^ |
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| 10.11           | Hextend and PentaLyte Collaboration Agreement between BioTime, Inc. and Summit Pharmaceuticals International Corporation.‡  |

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- 10.12 Lease dated as of May 4, 2005 between BioTime, Inc. and Hollis R& D Associates ‡‡
- 10.13 Addendum to Hextend and PentaLyte Collaboration Agreement Between BioTime Inc. And Summit Pharmaceuticals International Corporation‡‡‡‡
- 10.14 Amendment to Exclusive License Agreement Between BioTime Inc. and Hospira, Inc.††
- 10.15 Hextend and PentaLyte China License Agreement Between BioTime, Inc. and Summit Pharmaceuticals International Corporation.†††
- 10.16 Revolving Credit Line Agreement between BioTime, Inc, Alfred D. Kingsley, Cyndel & Co., Inc., and George Karfunkel, dated April 12, 2006.††††
- 10.17 Security Agreement executed by BioTime, Inc., dated April 12, 2006.††††
- 10.18 Form of Revolving Credit Note of BioTime, Inc. in the principal amount of \$166,666.67 dated April 12, 2006.††††
- 10.19 First Amended and Restated Revolving Line of Credit Agreement, dated October 17, 2007. #####
- 10.20 Form of Amended and Restated Revolving Credit Note. #####
- 10.21 Form of Revolving Credit Note. #####
- 10.22 First Amended and Restated Security Agreement, dated October 17, 2007. #####
- 10.23 Employment Agreement, dated October 10, 2007, between BioTime, Inc. and Michael D. West.++++
- 10.24 Commercial License and Option Agreement between BioTime and Wisconsin Alumni Research Foundation.\*\*\*\*\*
- 10.25 Second Amended and Restated Revolving Line of Credit Agreement, dated February 15, 2008.‡‡‡‡
- 10.26 Form of Amended and Restated Revolving Credit Note.‡‡‡‡
- 10.27 Second Amended and Restated Security Agreement, dated February 15, 2008.‡‡‡‡
- 10.28 Third Amended and Restated Revolving Line of Credit Agreement, March 31, 2008. ~
- 10.29 Third Amended and Restated Security Agreement, dated March 31, 2008. ~
- 10.30 Sublease Agreement between BioTime, Inc. and Avigen, Inc.++++
- 10.31 License, Product Production, and Distribution Agreement, dated June 19, 2008, among Lifeline Cell Technology, LLC, BioTime, Inc., and Embryome Sciences, Inc. ^^
- 10.32 License Agreement, dated July 10, 2008, between Embryome Sciences, Inc. and Advanced Cell Technology, Inc. ^^



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- 10.33 License Agreement, dated August 15, between Embryome Sciences, Inc. and Advanced Cell Technology, Inc. <sup>^^^</sup>
- 10.34 Sublicense Agreement, dated August 15, between Embryome Sciences, Inc. and Advanced Cell Technology, Inc. <sup>^^^</sup>
- 10.35 Fourth Amendment of Revolving Line of Credit Agreement. <sup>^^^</sup>
- 10.36 Fourth Amendment of Security Agreement. <sup>^^^</sup>
- 10.37 Stem Cell Agreement, dated February 23, 2009, between Embryome Sciences, Inc. and Reproductive Genetics Institute. <sup>^^^^</sup>
- 10.38 First Amendment of Commercial License and Option Agreement, dated March 11, 2009, between BioTime and Wisconsin Alumni Research Foundation. <sup>^^^^</sup>
- 10.39 Employment Agreement, dated October 10, 2007, between BioTime, Inc. and Robert Peabody. <sup>^^^^</sup>
- 21 List of Subsidiaries of BioTime, Inc. <sup>^^^^</sup>
- 23.1 Consent of Rothstein, Kass & Company, P.C. <sup>^^^^</sup>
- 31 Rule 13a-14(a)/15d-14(a) Certification <sup>^^^^</sup>
- 32 Section 1350 Certification <sup>^^^^</sup>

† Incorporated by reference to BioTime's Form 10-K for the fiscal year ended June 30, 1998.

+ Incorporated by reference to Registration Statement on Form S-1, File Number 33-44549 filed with the Securities and Exchange Commission on December 18, 1991, and Amendment No. 1 and Amendment No. 2 thereto filed with the Securities and Exchange Commission on February 6, 1992 and March 7, 1992, respectively.

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# Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively.

++ Incorporated by reference to Registration Statement on Form S-2, File Number 333-109442, filed with the Securities and Exchange Commission on October 3, 2003, and Amendment No.1 thereto filed with the Securities and Exchange Commission on November 13, 2003.

+++Incorporated by reference to Registration Statement on Form S-2, File Number 333-128083, filed with the Securities and Exchange Commission on September 2, 2005.

## Incorporated by reference to Registration Statement on Form S-8, File Number 333-101651 filed with the Securities and Exchange Commission on December 4, 2002 and Registration Statement on Form S-8, File Number 333-122844 filed with the Securities and Exchange Commission on February 23, 2005.

### Incorporated by reference to BioTime's Form 8-K, filed April 24, 1997.

^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 1999.

\* Incorporated by reference to BioTime's Form 10-K for the year ended December 31, 2001.

\*\* Incorporated by reference to BioTime's Form 10-K/A-1 for the year ended December 31, 2002.

‡ Incorporated by reference to BioTime's Form 8-K, filed December 30, 2004

‡‡ Incorporated by reference to Post-Effective Amendment No. 3 to Registration Statement on Form S-2 File Number 333-109442, filed with the Securities and Exchange Commission on May 24, 2005

‡‡‡ Incorporated by reference to BioTime's Form 8-K, filed December 20, 2005

†† Incorporated by reference to BioTime's Form 8-K, filed January 13, 2006

††† Incorporated by reference to BioTime's Form 8-K, filed March 30, 2006

†††† Incorporated by reference to BioTime's Form 10-K for the year ended December 31, 2005

\*\*\* Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 2006.

\*\*\*\* Incorporated by reference to BioTime's Form 8-K, filed January 9, 2008.

‡‡‡‡ Incorporated by reference to BioTime's Form 8-K, filed March 10, 2008.

~ Incorporated by reference to BioTime's Form 8-K filed April 4, 2008.

++++ Incorporated by reference to BioTime's Form 10-KSB for the year ended December 31, 2007.

^^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 2008.

^^^ Incorporated by reference to BioTime's Form 10-Q for the quarter ended September 30, 2008.

^^^ Filed herewith

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