

BIOTIME INC

Form POS AM

September 04, 2009

As filed with the Securities and Exchange Commission on September 4, 2009

Registration No. 333-128083

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SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 4

ON FORM S-1

TO

FORM S-2

REGISTRATION STATEMENT UNDER

THE SECURITIES ACT OF 1933

BIOTIME, INC.

(Exact name of Registrant as specified in charter)

California

(State or other jurisdiction of  
incorporation or organization)

2836

(Primary Standard Industrial  
Classification Code Number)

94-3127919

(I.R.S. Employer Identification  
Number)

1301 Harbor Bay Parkway, Suite 100  
Alameda, California 94502  
(510) 521-3390

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

Judith Segall, Vice President and Secretary  
BioTime, Inc.

1301 Harbor Bay Parkway, Suite 100  
Alameda, California 94502  
(510) 521-3390

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

Copies of all communications, including all communications sent to the agent for service, should be sent to:

RICHARD S. SOROKO, ESQ.

Lippenberger, Thompson, Welch, Soroko & Gilbert LLP

201 Tamal Vista Blvd.

Corte Madera, California 94925

Tel. (415) 927-5200

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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 Securities Exchange Act of 1934. (Check one):

Large accelerated filer

Accelerated filer

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

Smaller reporting company S

This Registration Statement relates to the registration statement under Commission file number 333-109442

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

Subject to Completion, Dated September 4, 2009

PROSPECTUS  
BIOTIME, INC.

2,694,282 Common Shares  
7,847,867 Warrants  
7,847,867 Common Shares Issuable Upon Exercise of Warrants

This prospectus relates to 4,750,519 warrants, and common shares that may be issued upon the exercise of the warrants, that we issued in our subscription rights offers that were completed during January 2004 and December 2005. This prospectus also relates to 2,694,282 common shares and 3,097,348 warrants held by certain persons or affiliates of persons who acted as “Guarantors” or “Participating Debenture Holders” in the subscription rights offers. The exercise price of the warrants is \$2.00 per share. The warrants will expire at 5:00 New York time on October 31, 2010 and may not be exercised after that date.

The common shares are quoted on the Over-the-Counter Bulletin Board (“OTCBB”) under the symbol BTIM, and the warrants are quoted on the OTCBB under the symbol BTIMW. The closing price of the common shares on the OTCBB on August 21, 2009 was \$3.10, and the closing price of the warrants on the OTCBB on August 18, 2009 was \$1.30.

The Guarantors and Participating Debenture Holders and their designees may sell their common shares and warrants from time to time on the OTCBB at prevailing market prices, or in privately negotiated transactions, and they will bear all broker-dealer fees, commissions, and discounts payable in connection with the sale of their shares and warrants.

We will receive the exercise price of the warrants when the warrants are exercised. However, all of the net proceeds from the sale of outstanding common shares and warrants will belong to the selling security holders and not to us.

Brokers or dealers effecting transactions in the shares or warrants should confirm that the shares or warrants are registered under applicable state law or that an exemption from registration is available.

These securities involve a high degree of risk and should be purchased only by persons who can afford the loss of their entire investment. See “Risk Factors” on page 8.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is September \_\_, 2009



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## PROSPECTUS SUMMARY

The following summary explains only some of the information in this prospectus. More detailed information and financial statements appear elsewhere in this prospectus. Statements contained in this prospectus 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.”

BioTime, Inc.

### Overview

We are a biotechnology company engaged in two areas of biomedical research and product development. The first product segment is 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 second product segment is regenerative medicine. Regenerative medicine refers to therapies based on human embryonic stem (“hES”) cell technology 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 products generally can be marketed without regulatory (FDA) approval, and are therefore relatively near-term business opportunities when compared to therapeutic products. These products are currently being marketed through our wholly owned subsidiary, Embryome Sciences, Inc. We may also initiate development programs for human therapeutic applications should it be determined that it is practical to raise the required capital or to co-develop products with a third party on terms acceptable to us. We recently were awarded a \$4,721,706 grant from the California Institute of Regenerative Medicine for a stem cell research project related to our ACTCellerate™ embryonic stem cell technology that will address the need for industrial scale production of purified therapeutic cells.

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.

### Plasma Volume Expander Products

We develop blood plasma volume expanders, blood replacement solutions for hypothermic (low temperature) surgery, organ preservation solutions, and technology for use in surgery, emergency trauma treatment and other applications. 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 keeps vital organs perfused 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 designed to compete with and to replace products that have been used to maintain fluid volume and blood pressure during surgery.

Hextend has become the standard plasma volume expander at a number of prominent teaching hospitals and leading medical centers, and is part of the United States Armed Forces 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.

Hextend is manufactured and distributed in the United States by Hospira, Inc. ("Hospira") and in South Korea by CJ CheilJedang Corp. ("CJ") under license from us. Summit Pharmaceuticals International Corporation ("Summit") has a license to develop Hextend and PentaLyte in Japan, the People's Republic of China, and Taiwan.

We have completed a Phase II clinical trial of PentaLyte in which PentaLyte was used to treat hypovolemia in cardiac surgery. Our ability to commence and complete additional clinical studies of PentaLyte depends on our cash resources, the costs involved, and licensing arrangements with a pharmaceutical company capable of manufacturing and marketing PentaLyte. We are currently seeking a licensee or co-developer to advance the commercialization of PentaLyte.

### Stem Cells and Products for Regenerative Medicine Research

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. hES cells are pluripotent, meaning that they have the potential to become any kind of cell found in the human 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 initial 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 products are currently being marketed through our wholly owned subsidiary, Embryome Sciences, Inc. 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 inside and outside the United States.

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. One of our first products is a relational database 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 and will aid researchers in navigating the complexities of human development and in identifying the many hundreds of cell types coming from embryonic stem cells. Our embryo map data base is now available at our website Embryome.com.

When Embryome Sciences acquired a license to use ACTCellerate™ technology, it also acquired the rights to market approximately 100 progenitor cell types made using ACTCellerate™ technology. ACTCellerate™ technology allows the rapid isolation of novel, highly-purified embryonic progenitor cells (hEPCs). hEPCs are intermediate in the developmental process between embryonic stem cells and fully differentiated cells. hEPCs may possess the ability to become a wide array of cell types with potential applications in research, drug discovery, and human regenerative stem cell therapy.

Embryome Sciences has entered into an agreement under which Millipore Corporation became a worldwide distributor of ACTCellerate™ human progenitor cell lines. Millipore's initial offering of Embryome Sciences' products will include six novel progenitor cell lines and optimized ESpan™ growth media for the in vitro propagation of each progenitor cell line. The companies anticipate jointly launching 35 cell lines and associated ESpan™ growth media within the coming 12 months. The Embryome Sciences products distributed by Millipore may also be purchased directly from Embryome Sciences at Embryome.com.

Embryome Sciences also plans to offer for sale an array of hES cell lines carrying inherited genetic diseases such as cystic fibrosis and muscular dystrophy. When available, these hES products will also be sold online at Embryome.com.

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.

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.



On April 29, 2009, the California Institute of Regenerative Medicine (CIRM) awarded us a \$4,721,706 grant for a stem cell research project related to our ACTCellerate™ embryonic stem cell technology. Our grant project is titled “Addressing the Cell Purity and Identity Bottleneck through Generation and Expansion of Clonal Human Embryonic Progenitor Cell Lines.” In our CIRM-funded research project we will work with hEPCs generated using our ACTCellerate™ technology. The hEPCs are relatively easy to manufacture on a large scale and in a purified state, which may make it advantageous to work with these cells compared to the direct use of hES cells. We will work on identifying antibodies and other cell purification reagents that may be useful in the production of hEPCs that can be used to develop pure therapeutic cells such as nerve, blood vessel, heart muscle, cartilage, as well as other cell types.

Until such time as we are able to successfully commercialize any of the various regenerative medicine products and enter into commercial license agreements for those products and additional foreign commercial license agreements for Hextend, we will depend upon royalties from the sale of Hextend by Hospira and CJ as our principal source of revenues.

The amount and pace of research and development work that we can do or sponsor, and our ability to commence and complete clinical trials required to obtain FDA and foreign regulatory approval of products, depends 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 and scope 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.

Hextend® and PentaLyte® are registered trademarks of BioTime, Inc., and ESpan™, ReCyte™, and Espy™ are trademarks of Embryome Sciences, Inc. ACTCellerate™ is a trademark licensed to Embryome Sciences, Inc. by Advanced Cell Technology, Inc.

Offering Summary

Warrants Offered	3,097,348 warrants are being offered by the selling warrant holders
Common Shares Offered	7,847,867 common shares are being offered by us upon the exercise of warrants. 2,694,282 common shares are being offered by the selling shareholders.
Common Shares Outstanding	32,614,563
Warrants	<p>Each warrant entitles the holder to purchase one common share at a price of \$2.00 per share. The number of common shares and the exercise price will be proportionally adjusted in the event of a stock split, stock dividend, combination or similar recapitalization of the common shares. The warrants will expire on October 31, 2010 and may not be exercised after that date.</p> <p>We may redeem the warrants by paying \$.05 per warrant if the closing price of the common shares on a national securities exchange or the Nasdaq Stock Market exceeds 200% of the exercise price of the warrants for any 20 consecutive trading days. We will give the warrant holders 20 days written notice of the redemption, setting the redemption date, and the warrant holders may exercise the warrants prior to the redemption date. The warrants may not be exercised after the last business day prior to the redemption date.</p>

## RISK FACTORS

An investment in our shares and warrants involves a high degree of risk. You should purchase our shares and warrants only if you can afford to lose your entire investment. Before deciding to purchase any of the shares or warrants offered by this prospectus, you should consider the following factors which could materially adversely affect our proposed operations, our business prospects, and the value of an investment in our shares or warrants. There may be other factors that are not mentioned here or of which we are not presently aware that could also affect our operations.

### Risks Related to Our Business Operations

Sales of Hextend to date have not been sufficient to generate an amount of royalties or licensing fees sufficient to cover our operating expenses

Hextend is presently the only plasma expander product that we have on the market, and it is being sold only in the United States and South Korea. The royalty revenues that we have received from sales of Hextend have not been sufficient to pay our operating expenses. This means that we need to successfully develop and market or license additional products and earn additional revenues in sufficient amounts to meet our operating expenses.

We will receive additional license fees and royalties if our licensees are successful in marketing Hextend and PentaLyte in Japan, Taiwan and China, but they have not yet obtained the regulatory approvals required to begin selling those products.

We are also beginning to bring our first stem cell research products to the market but there is no assurance that we will succeed in generating significant revenues from the sale of those products.

We may not succeed in marketing our plasma volume expander products due to the availability of competing products

Factors that affect the marketing of our products include the following:

Hextend and our other plasma expander products will compete with other products that are commonly used in surgery and trauma care and sell at lower prices.

In order to compete with other products, particularly those that sell at lower prices, our products will have to provide medically significant advantages.

Physicians and hospitals may be reluctant to try a new product due to the high degree of risk associated with the application of new technologies and products in the field of human medicine.

Competing products are being manufactured and marketed by established pharmaceutical companies. For example, B. Braun/McGaw presently markets Hespan, an artificial plasma volume expander, and Hospira and Baxter International, Inc. manufacture and sell a generic equivalent of Hespan.

There also is a risk that our competitors may succeed in developing safer or more effective products that could render our products and technologies obsolete or noncompetitive.

We will spend a substantial amount of our capital on research and development but we might not succeed in developing products and technologies that are useful in medicine

We are attempting to develop new medical products and technologies.

Many of our experimental products and technologies have not been applied in human medicine and have only been used in laboratory studies on animals. These new products and technologies might not prove to be safe and efficacious in the human medical applications for which they were developed.

The experimentation we are doing is costly, time consuming and uncertain as to its results. We incurred research and development expenses amounting to \$1,706,214 during 2008 and \$967,864 during 2007.

If we are successful in developing a new technology or product, refinement of the new technology or product and definition of the practical applications and limitations of the technology or product may take years and require the expenditure of large sums of money.

Future clinical trials of new products such as PentaLyte may take longer and may be more costly than our Hextend clinical trials. The FDA permitted us to proceed directly into a Phase III clinical trial of Hextend involving only 120 patients because the active ingredients in Hextend had already been approved for use by the FDA in other products. Because PentaLyte contains a starch that has not been approved by the FDA for use in a plasma volume expander, we have had to complete Phase I and Phase II clinical trials of PentaLyte, and we will have to complete a Phase III trial that will involve more patients than our Hextend trials. We do not yet know the scope or cost of the Phase III clinical trials that the FDA will require for PentaLyte or the other products we are developing.

Our success depends in part on the growth of the stem cell industry, which is still in its infancy and its growth is uncertain

We are developing and marketing products for use in stem cell research, including products that we plan to sell to companies and institutions that are seeking to develop human therapeutic stem cell products.

The success of our business depends on the growth of stem cell research, without which there may be no market or only a very small market for our products and technology. The likelihood that stem cell research will grow depends upon the successful development of stem cell products that can be used to treat disease or injuries in people or that can be used to facilitate the development of other pharmaceutical products. However, stem cells have not been used in human medicine and have only been used in laboratory studies on animals.

There can be no assurance that any safe and efficacious human medical applications will be developed using stem cells or related technology.

Government-imposed restrictions and religious, moral and ethical concerns with respect to use of embryos or human embryonic stem cells in research and development could have a material adverse effect on the growth of the stem cell industry even if research proves that useful medical products can be developed using human embryonic stem cells.

We have incurred operating losses since inception and we do not know if we will attain profitability

Our net losses for the fiscal years ended December 31, 2008, 2007 and 2006 were \$3,780,895, \$1,438,226, and \$1,864,621, respectively. Our ability to generate sufficient operating revenue to earn a profit depends upon our success in developing and marketing or licensing our products and technology.

We might not be able to raise additional capital needed to pay our operating expenses

We plan to continue to incur substantial research and product development expenses, and we will need to raise additional capital to pay operating expenses until we are able to generate sufficient revenues from product sales, royalties, and license fees.

It is likely that additional sales of equity or debt securities will be required to meet our short-term capital needs, unless we receive substantial revenues from the sale of our new products or we are successful in licensing or sublicensing the technology that we develop or acquire from others and we receive substantial licensing fees and royalties.

Sales of additional equity securities could result in the dilution of the interests of present shareholders.

The amount and pace of research and development work that we can do or sponsor, and our ability to commence and complete clinical trials required to obtain FDA and foreign regulatory approval of our pharmaceutical products, depends upon the amount of money we have

We have already curtailed the pace and scope of our plasma volume expander development efforts due to the limited amount of funds available, and we may have to postpone other laboratory research and development work unless our cash resources increase through a growth in revenues or additional equity investment or borrowing.

Although we were recently awarded a \$4,721,706 grant for a stem cell research project, and we recently received \$8,000,000 through the sale of stock and warrants, there can be no assurance that we will be able to raise additional funds on favorable terms or at all, or that any funds raised will be sufficient to permit us to develop and market our products and technology. Unless we are able to generate sufficient revenue or raise additional funds when needed, it is likely that we will be unable to continue our planned activities, even if we make progress in our research and development projects.

Although we will continue to seek licensing fees from pharmaceutical companies for licenses to manufacture and market our products abroad, it is likely that additional sales of equity or debt securities will be required to meet our short-term capital needs.

Our business could be adversely affected if we lose the services of the key personnel upon whom we depend

Our stem cell research program is directed primarily by our Chief Executive Officer Dr. Michael West. The loss of Dr. West's services could have a material adverse effect on us.

#### Risks Related to Our Industry

We will face certain risks arising from regulatory, legal, and economic factors that affect our business and the business of other pharmaceutical development companies. Because we are a small company with limited revenues and limited capital resources, we may be less able to bear the financial impact of these risks than larger companies that have substantial income and available capital.

If we do not receive FDA and other regulatory approvals we will not be permitted to sell our pharmaceutical products

The pharmaceutical products that we develop cannot be sold until the FDA and corresponding foreign regulatory authorities approve the products for medical use. Hextend has been approved for use in the United States, Canada and Korea only. One of our licensees has been conducting a Phase III equivalent clinical trial of Hextend in Japan. We have conducted a Phase II clinical trial of PentaLyte as a plasma volume expander in surgery but we do not have sufficient financing to commence a Phase III trial.

The need to obtain regulatory approval to market a new product means that:

We will have to conduct expensive and time consuming clinical trials of new products. The full cost of completing a Phase III clinical trial of PentaLyte necessary to obtain FDA approval cannot be presently determined but exceeds our current financial resources.

We will incur the expense and delay inherent in seeking FDA and foreign regulatory approval of new products. For example, 12 months elapsed between the date we filed our application to market Hextend in the United States and the date on which our application was approved. Approximately 36 months elapsed between the date we filed our application for approval to market Hextend in Canada, and the date on which our application was approved, even though we did not have to conduct any additional clinical trials.

A product that is approved may be subject to restrictions on use.

The FDA can recall or withdraw approval of a product if problems arise.

We will face similar regulatory issues in foreign countries.

Government imposed restrictions and religious, moral and ethical concerns on the use of hES cells could prevent us from developing and successfully marketing stem cell products

Government-imposed restrictions with respect to the use of embryos or human embryonic stem cells in research and development could limit our ability to conduct research and develop new products.

Government imposed restrictions on the use of embryos or hES cells in the United States and abroad could generally constrain stem cell research thereby limiting the market and demand for our products. During March 2009, President Obama lifted certain restrictions on federal funding of research involving the use of hES cells, and in accordance with President Obama's executive order, the National Institutes of Health has adopted new guidelines for determining the eligibility of hES cell lines for use in federally funded research. The central focus of the proposed guidelines is to assure that hES cells used in federally funded research were derived from human embryos that were created for reproductive purposes, were no longer needed for this purpose, and were voluntarily donated for research purposes with the informed written consent of the donors. hES cells that were derived from embryos created for research purposes rather than reproductive purposes, and other hES cells that were not derived in compliance with the guidelines, are not eligible for use in federally funded research.

California law requires that stem cell research be conducted under the oversight of a stem cell research oversight (SCRO) committee. Many kinds of stem cell research, including the derivation of new hES cell lines, may only be conducted in California with the prior written approval the SCRO. A SCRO could prohibit or impose restrictions on the research we plan to do.

The use of hES cells gives rise to religious, moral and ethical issues regarding the appropriate means of obtaining the cells and the appropriate use and disposal of the cells. These considerations could lead to more restrictive government regulations or could generally constrain stem cell research thereby limiting the market and demand for our products.

If we are unable to obtain and enforce patents and to protect our trade secrets, others could use our technology to compete with us, which could limit opportunities for us to generate revenues by licensing our technology and selling products

Our success will depend in part on our ability to obtain and enforce patents and maintain trade secrets in the United States and in other countries. If we are unsuccessful in obtaining and enforcing patents, our competitors could use our technology and create products that compete with our products, without paying license fees or royalties to us.

The preparation, filing, and prosecution of patent applications can be costly and time consuming. Our limited financial resources may not permit us to pursue patent protection of all of our technology and products throughout the world.

Even if we are able to obtain issued patents covering our technology or products, we may have to incur substantial legal fees and other expenses to enforce our patent rights in order to protect our technology and products from infringing uses. We may not have the financial resources to finance the litigation required to preserve our patent and trade secret rights.

There is no certainty that our pending or future patent applications will result in the issuance of patents

We have obtained licenses for a number of patent applications covering technology that we believe will be useful in producing new products, and which we believe may be of commercial interest to other companies that may be willing to sublicense the technology for fees or royalty payments. We may also file new patent applications in the future seeking patent protection for new technology or products that we develop ourselves or jointly with others. However, there is no assurance that any of our licensed patent applications or any future patent applications that we may file in the United States or abroad will result in the issuance of patents.

In Europe, the European Patent Convention prohibits the granting of European patents for inventions that concern "uses of human embryos for industrial or commercial purposes." The European Patent Office is presently interpreting this prohibition broadly, and is applying it to reject patent claims that pertain to human embryonic stem cells. However, this broad interpretation is being challenged through the European Patent Office appeals system. As a result, we do not yet know whether or to what extent we will be able to obtain patent protection for our human embryonic stem cell technologies in Europe.

The process of applying for and obtaining patents can be expensive and slow

The preparation and filing of patent applications, and the maintenance of patents that are issued, may require substantial time and money.

A patent interference proceeding may be instituted with the U.S. Patent and Trademark Office (the PTO) when more than one person files a patent application covering the same technology, or if someone wishes to challenge the validity of an issued patent. At the completion of the interference proceeding, the PTO will determine which competing applicant is entitled to the patent, or whether an issued patent is valid. Patent interference proceedings are complex, highly contested legal proceedings, and the PTO's decision is subject to appeal. This means that if an interference proceeding arises with respect to any of our patent applications, we may experience significant expenses and delay in obtaining a patent, if the outcome of the proceeding is unfavorable to us, the patent could be issued to a competitor rather than to us.

Oppositions to the issuance of patents may be filed under European patent law and the patent laws of certain other countries. Like US PTO interference proceedings, these foreign proceedings can be very expensive to contest and can result in significant delays in obtaining a patent or can result in a denial of a patent application.



Our patents may not protect our products from competition

We have patents in the United States, Canada, the European Union countries, Australia, Israel, Russia, South Africa, South Korea, Japan, Hong Kong, and Singapore, and have filed patent applications in other foreign countries for our plasma volume expander products.

We might not be able to obtain any additional patents, and any patents that we do obtain might not be comprehensive enough to provide us with meaningful patent protection.

There will always be a risk that our competitors might be able to successfully challenge the validity or enforceability of any patent issued to us.

In addition to interference proceedings, the U.S. PTO can reexamine issued patents at the request of a third party seeking to have the patent invalidated. This means that patents owned or licensed by us may be subject to reexamination and may be lost if the outcome of the reexamination is unfavorable to us.

If we fail to meet our obligations under license agreements, we may lose our rights to key technologies on which our business depends

Our business depends on several critical technologies that are based in part on technology licensed from third parties. Those third-party license agreements impose obligations on us, including payment obligations and obligations to pursue development of commercial products under the licensed patents or technology. If a licensor believes that we have failed to meet our obligations under a license agreement, the licensor could seek to limit or terminate our license rights, which could lead to costly and time-consuming litigation and, potentially, a loss of the licensed rights. During the period of any such litigation our ability to carry out the development and commercialization of potential products could be significantly and negatively affected. If our license rights were restricted or ultimately lost, we would not be able to continue to use the licensed technology in our business.

The price and sale of our products may be limited by health insurance coverage and government regulation

Success in selling our pharmaceutical products may depend in part on the extent to which health insurance companies, HMOs, and government health administration authorities such as Medicare and Medicaid will pay for the cost of the products and related treatment. Presently, most health insurance plans and HMOs will pay for Hextend when it is used in a surgical procedure that is covered by the plan. However, until we actually introduce a new product into the medical market place we will not know with certainty whether adequate health insurance, HMO, and government coverage will be available to permit the product to be sold at a price high enough for us to generate a profit. In some foreign countries, pricing or profitability of health care products is subject to government control which may result in low prices for our products. In the United States, there have been a number of federal and state proposals to implement similar government controls, and new proposals are likely to be made in the future.

## Risks Pertaining to Our Common Shares and Warrants

Before purchasing our common shares or warrants, investors should consider the price volatility of our shares and warrants and the fact that we do not pay dividends.

Because we are engaged in the development of pharmaceutical and stem cell research products, the price of our stock may rise and fall rapidly

The market price of our shares and warrants, like that of the shares of many biotechnology companies, has been highly volatile.

The price of our shares and warrants may rise rapidly in response to certain events, such as the commencement of clinical trials of an experimental new drug, even though the outcome of those trials and the likelihood of ultimate FDA approval remain uncertain.

Similarly, prices of our shares and warrants may fall rapidly in response to certain events such as unfavorable results of clinical trials or a delay or failure to obtain FDA approval.

The failure of our earnings to meet analysts' expectations could result in a significant rapid decline in the market price of our common shares and warrants.

Current economic and stock market conditions may adversely affect the price of our common shares and warrants

The stock market has been experiencing extreme price and volume fluctuations which have affected the market price of the equity securities without regard to the operating performance of the issuing companies. Broad market fluctuations, as well as general economic and political conditions, may adversely affect the market price of the common shares and warrants.

Our common shares and warrants are subject to the so-called penny stock rules that impose restrictive sales practice requirements

The common shares and warrants are subject to the so-called penny stock rules that impose restrictive sales practice requirements on broker-dealers who sell penny stocks to persons other than established customers and accredited investors. An accredited investor generally is a person who has a net worth in excess of \$1,000,000 or individual annual income exceeding \$200,000, or joint annual income with a spouse exceeding \$300,000. For transactions covered by this rule, the broker-dealer must make a special suitability determination for the purchaser and must have received the purchaser's written consent to the transaction prior to sale. This means that delisting could affect the ability of shareholders to sell their common shares and warrants in the secondary market.

The Securities and Exchange Commission (the "Commission") has adopted regulations that define a "penny stock" to be any equity security that has a market price of less than \$5.00 per share or an exercise price of less than \$5.00 per share, subject to certain exceptions. If a transaction involving a penny stock is subject to the Commission's rule, a broker-dealer must deliver a disclosure schedule relating to the penny stock market to the investor prior to a transaction. The broker-dealer also must disclose the commissions payable to both the broker-dealer and the registered representative, current quotations for the penny stock, and, if the broker-dealer is the sole market-maker, the broker-dealer must disclose this fact and the broker-dealer's presumed control over the market. Finally, monthly statements must be sent disclosing recent price information for the penny stock held in the customer's account and information on the limited market in penny stocks.



Because we do not pay dividends, our stock may not be a suitable investment for anyone who needs to earn dividend income

We do not pay cash dividends on our common shares. For the foreseeable future we anticipate that any earnings generated in our business will be used to finance the growth of our business and will not be paid out as dividends to our shareholders. We are also prohibited from paying cash dividends on our common shares under the terms of our Revolving Line of Credit Agreement. This means that our stock may not be a suitable investment for anyone who needs to earn income from their investments.

The warrants cannot be exercised unless a registration statement is in effect under federal and state securities laws

A registration statement under the Securities Act of 1933, as amended (the "Securities Act"), must be in effect in order for warrant holders to exercise their warrants. This means that we will have to periodically update our registration statement and prospectus by filing post-effective amendments. We intend to use our best efforts to keep our registration statement effective. However, if we are unable to do so for any reason, warrant holders would not be able to exercise their warrants, even if the market price of our common shares was then greater than the exercise price.

If our common shares are not exempt from state registration or qualification, most states will require us to obtain a permit, issued through an application for registration or qualification, and to maintain that permit in effect in order for warrant holders in the state to exercise their warrants. Many states will only issue a permit if their securities regulatory agency determines that the securities are a suitable investment for public investors in their state, considering a variety of factors, including the financial performance and financial condition of the company issuing the securities. Because we have a history of operating losses, some or all of those states may decline to issue the permit required to permit warrant holders in those states to exercise their warrants.

Securities analysts may not initiate coverage or continue to cover our common stock, and this may have a negative impact on our market price.

The trading market for our common shares will depend, in part, on the research and reports that securities analysts publish about our business and our common shares. We do not have any control over these analysts. There is no guarantee that securities analysts will cover our common shares. If securities analysts do not cover our common shares, the lack of research coverage may adversely affect the market price of those shares. If securities analysts do cover our shares, they could issue reports or recommendations that are unfavorable to the price of our shares, and they could downgrade a previously favorable report or recommendation, and in either case our share price could decline as a result of the report. If one or more of these analysts ceases to cover our shares or fails to publish regular reports on our business, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

You may experience dilution of your ownership interests because of the future issuance of additional shares of our common shares and our preferred stock.

In the future, we may issue our authorized but previously unissued equity securities, resulting in the dilution of the ownership interests of our present shareholders. We are currently authorized to issue an aggregate of 51,000,000 shares of capital stock consisting of 50,000,000 common shares and 1,000,000 “blank check” preferred shares. As of August 21, 2009, there were: 32,614,563 common shares outstanding, and 3,413,000 common shares reserved for issuance upon the exercise of outstanding options under our employee stock option plans, 250,000 common shares reserved for issuance upon the exercise of options issued outside of our employee stock option plan, 7,847,867 common shares reserved for issuance upon the exercise of the warrants described in this prospectus, 5,224,649 common shares reserved for issuance upon the exercise of other warrants, and 77,425 common shares that may be acquired by lenders under our Revolving Line of Credit. No preferred shares are presently outstanding.

We may issue additional common shares or other securities that are convertible into or exercisable for common shares in order to raise additional capital, or in connection with hiring or retaining employees or consultants, or in connection with future acquisitions of licenses to technology or rights to acquire products, in connection with future business acquisitions, or for other business purposes. The future issuance of any such additional common shares or other securities may create downward pressure on the trading price of our common shares.

We may also issue preferred shares having rights, preferences, and privileges senior to the rights of our common shares with respect to dividends, rights to share in distributions of our assets if we liquidate our company, or voting rights. Any preferred shares may also be convertible into common shares on terms that would be dilutive to holders of common shares.

#### MARKET FOR OUR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

BioTime common shares were traded on the American Stock Exchange from August 31, 1999 until July 14, 2005, and have been quoted on the OTCBB 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 and for the first two quarters of 2009 based on transaction data as reported by the OTCBB:

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
March 31, 2009	2.55	1.35
June 30, 2009	3.00	1.57



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 August 17, 2009, there were 7,746 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. During August 2009, the Board of Directors approved an additional amendment to the 2002 Employee Stock Option Plan that will make an additional 2,000,000 common shares available under the Plan, but those shares are not reflected in the table. We intend to submit both amendments to our shareholders for approval at our next annual meeting. As of December 31, 2008, we had granted 246,667 warrants and 250,000 stock options to certain consultants for providing services to us, and we had granted 250,000 warrants to an investment banker for arranging a portion of the loans under our Revolving Line of Credit Agreement.

## USE OF PROCEEDS

The cash proceeds receivable from the exercise of 7,847,867 warrants will be \$15,695,734. We intend to use the proceeds from the exercise of the warrants as shown in the following table.

Application	Estimated Amount	Percent of Total	
Research and Development	\$ 10,000,000	64	%
Working Capital	\$ 5,695,734	36	%
Total	\$ 15,695,734	100	%

**Research and Development.** Proceeds allocated to research and development may be used to develop new stem cell products and technology and to acquire new stem cell products or and technology through licenses or similar agreements from other companies. We may also use proceeds for additional clinical trials of PentaLyte and to fund the cost of seeking regulatory approval of PentaLyte.

**Working Capital.** We intend to apply the balance of the proceeds from the exercise of the warrants to working capital and general corporate purposes. We will have broad discretion with respect to the use of proceeds retained as working capital. The proceeds may be used to defray overhead expenses and for future opportunities and contingencies that may arise. We expect that our general and administrative expenses will increase as we achieve progress in developing products and bringing them to market. For example, a portion of the proceeds allocated to working capital may be used to pay the salaries, benefits and fees to employees and consultants who assist in the development of new products or the preparation of applications to the FDA and foreign regulatory agencies and patent applications. Proceeds allocated to working capital also may be reallocated to research and development and may be used to pay the costs of developing new products, obtaining new technology, or conducting clinical trials of our products.

The preceding table represents only an estimate of the allocation of the net proceeds of the exercise of the warrants based upon the current state of our product development program. The development of new medical products and technologies often involves complications, delays and costs that cannot be predicted, and may cause us to make a reallocation of proceeds among the categories shown above or to other uses. We may need to raise additional capital to pay operating expenses until such time as we are able to generate sufficient revenues from product sales, royalties, and license fees.

Until used, the net proceeds from the exercise of the warrants will be invested in certificates of deposit, United States government securities or other high quality, short-term interest-bearing investments.



## OUR BUSINESS

We are developing products and technology for use in the emerging field of regenerative medicine. Regenerative medicine refers to therapies based on hES cell and induced pluripotent stem (iPS) 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, including through the use of iPS technology, 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 embryo is expected to allow scientists to better characterize the cells they produce, facilitate the purification of products, and thereby reduce the chances of administering contaminated 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 initially 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 initially 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 embryo 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 embryo map database is now available at our website [www.embryome.com](http://www.embryome.com).

## Progenitor and hES Cell Lines

When Embryome Sciences acquired a license to use ACTCellerate™ technology, it also acquired the rights to market more than 140 novel human cell types made using ACTCellerate™ technology. ACTCellerate™ technology allows the rapid isolation of novel, highly-purified hEPCs. hEPCs are cells that are intermediate in the developmental process between embryonic stem cells and fully differentiated cells. hEPCs may possess the ability to become a wide array of cell types with potential applications in research, drug discovery, and human regenerative stem cell therapy. The hEPCs are relatively easy to manufacture on a large scale and in a purified state, which may make it advantageous to work with these cells compared to the direct use of hES or iPS cells.

Embryome Sciences has entered into an agreement under which Millipore Corporation will become a worldwide distributor of ACTCellerate™ human progenitor cell lines. Millipore's initial offering of Embryome Sciences' products will include six novel progenitor cell lines and optimized ESspan™ growth media for the in vitro propagation of each progenitor cell line. The companies anticipate jointly launching 35 cell lines and associated ESspan™ growth media within the coming 12 months. The Embryome Sciences products distributed by Millipore may also be purchased directly from Embryome Sciences at Embryome.com.

On April 29, 2009, the California Institute of Regenerative Medicine (CIRM) awarded us a \$4,721,706 grant for a stem cell research project related to our ACTCellerate™ technology. Our grant project is titled "Addressing the Cell Purity and Identity Bottleneck through Generation and Expansion of Clonal Human Embryonic Progenitor Cell Lines." The overall objective of the research project is to generate tools useful in applying ACTCellerate™ technology to the manufacture of patient-specific therapeutic products. We already have isolated and expanded a number of hEPCs that may be used in the funded research program.

Our CIRM-funded research project will address the need for industrial scale production of purified therapeutic cells. hES and iPS cells are difficult and costly to manufacture in large quantities, especially with the purity required for therapeutic use. Purity and precise identification of the desired therapeutic cells are essential for cell therapy because unlike a drug which may persist in the body for a matter of hours or days, a cell can persist in the body for a lifetime. The pluripotency that allows hES cells to differentiate into all types of cells also poses the problem of assuring that all hES cells in a cultured batch differentiate into the desired type of body cell. Contamination of hES- or iPS-derived cells with the wrong cells could lead to toxicities resulting from normal but inappropriate tissue growth or tumor formation. For this reason, our funded research will use ACTCellerate™ technology to manufacture hEPCs rather than hES or iPS cells.

Because our hEPCs are clonal, meaning that they are derived from a single cell, they have the potential to grow as a highly purified cell line. However, the production of hEPCs for human therapeutic use will require a means of ascertaining that the cells being used are in fact the correct cells. Our research program proposes to map the surface markers on hEPC lines so that we can identify a molecular signature specific to a given hEPC line. The molecular signature will be the key to verifying the correct identity of cells intended to be used in therapy, and will facilitate purification of hEPCs from any hES or iPS cell line. We will seek to identify antibodies and other cell purification reagents that will reveal the molecular signature of the desired hEPCs. The successful completion of our proposed project will provide well-characterized hEPCs that are precursors of therapeutic cells such as nerve, blood vessel, heart muscle, cartilage, and skin, as well as other cell types.

The CIRM grant will provide up to \$4.7 million of funding for this research project over a period of three years, with \$1.6 million expected to be available during the first 12 months. We expect that the first funds will be available some time during the summer of 2009 and that work on the project will be ready to begin upon the receipt of funding.

#### hES Cells Carrying Genetic Diseases

Embryome Sciences has acquired an array of hES cell lines carrying inherited genetic diseases such as cystic fibrosis and muscular dystrophy. These hES cell lines will also be available for sale online at Embryome.com.

#### ESpan™ Cell Growth Media

We and Millipore are marketing a line of cell growth media products called ESpan™. These growth media are optimized for the growth of hEPC types. Cells need to be propagated in liquid media, in both the laboratory setting where basic research on stem cells is performed, and in the commercial sector where stem cells are scaled up for the manufacture of cell-based therapies or for the identification of new drugs. 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 hEPCs 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 useful in tracking the cells for research purposes.

#### 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.

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.

## 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 were 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 hEPCs or hEPC lines, and products derived from those hEPCs. 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 hEPC 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 have the right to 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

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 hEPCs without the utilization of hES 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 iPS 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 iPS 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 if 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 FDA 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 issued to 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 OTCBB market on the date 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, 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. Phase III 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.

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. 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.”

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, including through the use of iPS technology, 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.

In our CIRM-funded research project, we will work with hEPCs generated using our ACTCellerate™ embryonic stem cell technology. The hEPCs are relatively easy to manufacture on a large scale and in a purified state, which may make it advantageous to work with these cells compared to the direct use of hES or iPS cells. We will work on identifying antibodies and other cell purification reagents that may be useful in the production of hEPCs that can be used to develop pure therapeutic cells such as nerve, blood vessel, heart muscle, cartilage, and skin.

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 and will send beacons of light useful in tracking the cells for research purposes.

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 and Canada 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 had sublicensed to Maruishi Pharmaceutical Co., Ltd. the right to manufacture and market Hextend in Japan, and the right to manufacture and market Hextend and PentaLyte in China and Taiwan. However, Maruishi has withdrawn from the sublicense arrangement with Summit, and Summit has informed us that they intend to seek a replacement sublicensee.

A Phase III clinical trial in Japan, funded by Maruishi, using Hextend in surgery was conducted, but the trial has not been completed. Due to the withdrawal of Maruishi from its sublicense agreement, Summit will need to find a replacement sublicensee or other source of funding in order to complete the Phase III clinical study. Successful completion of the clinical study is required in order to seek regulatory approval to market Hextend in Japan.

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.

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 any third-party sublicensee.

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 hEPCs, progenitor cell lines, and products derived from those hEPC 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

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 for marketing or co-marketing our stem cell research products.

On July 7, 2009, our subsidiary, Embryome Sciences, Inc., entered into an agreement under which Millipore Corporation became a worldwide distributor of ACTCellerate™ human progenitor cell lines. Millipore's initial offering of Embryome Sciences' products will include six novel progenitor cell lines and optimized ESpan™ growth media for the in vitro propagation of each progenitor cell line. We anticipate jointly launching 35 cell lines and associated ESpan™ growth media with Millipore within the coming 12 months.

Millipore will be Embryome Sciences' exclusive third party distributor of the products covered by the agreement, although Embryome Sciences retains the right to sell the products to its own customers and is presently marketing the initial products online at Embryome.com. Embryome Sciences will provide the products to Millipore on consignment and will be paid on a quarterly basis for products sold. Embryome Sciences will receive additional annual payments from Millipore, based on a percentage of annual sales, if annual sales exceed certain milestone amounts.

The agreement will have a term of five years, subject to annual renewal if the parties so elect, and subject to Millipore's right to terminate the agreement at any time upon 60 days notice. Either party may also terminate the agreement in the case of an uncured breach or default by the other party.

The market for our stem cell products may be impacted by the amount of Federal and state 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 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 26 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 March 2009. 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.

In addition to patenting our own technology, we have licensed patents and patent applications for certain stem cell technology, hEPC lines, and hES cell lines from other companies. See "Our Business--Licensed Stem Cell Technologies and Stem Cell Product Development Agreements."

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 hES cell and hEPC-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 plasma volume expanders, will be regulated as drugs, while tissues and cells intended for transplant into the human body will be regulated as biologicals, and both plasma volume expanders and tissue and cell therapeutic products will be reviewed by the FDA staff responsible for evaluating biologicals.

Our domestic human drug and biological 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, and human tissue and cell 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 permitted federal funding of research on hES cells using only the limited number of hES cell lines that had already been created as of August 9, 2001. On March 9, 2009, President Obama issued an Executive Order rescinding President Bush's August 9, 2001 and June 20, 2007 Executive Orders. President Obama's Executive Order also instructed the National Institutes of Health to review existing guidance on human stem cell research and to issue new guidance on the use of hES cells in federally funded research, consistent with President's new Executive Order and existing law. The NIH has adopted new guidelines that went into effect July 7, 2009. The central focus of the proposed guidelines is to assure that hES cells used in federally funded research were derived from human embryos that were created for reproductive purposes, were no longer needed for this purpose, and were voluntarily donated for research purposes with the informed written consent of the donors. hES cells that were derived from embryos created for research purposes rather than reproductive purposes, and other hES cells that were not derived in compliance with the guidelines, are not eligible for use in federally funded research.

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 hES 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 created CIRM, which will provide grants, primarily but not exclusively, to academic institutions to advance both hES cell research and adult stem cell research. During April 2009 we were awarded a \$4,721,706 research grant from CIRM. We believe that Prop. 71 funding for research in the use of hES cells for various diseases and conditions will contribute to the demand for stem cell research products.

#### Employees

As of August 21, 2009, we employed fourteen persons on a full-time basis and three persons on a part-time basis. Six full-time employees hold Ph.D. Degrees in one or more fields of science.

#### Facilities

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 hEPCs and hEPC lines, and products derived from those hEPC lines.

This facility is occupied under a sublease. Base monthly rent is \$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.

## 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.

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 marketing our stem cell products for research use through our wholly-owned subsidiary, Embryome Sciences, Inc. 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 that do not require FDA approval. 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 embryome, 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 has entered into an agreement under which Millipore Corporation became a worldwide distributor of ACTCellerate™ human progenitor cell lines. Millipore's initial offering of Embryome Sciences' products will include six novel progenitor cell lines and optimized ESpan™ growth media for the in vitro propagation of each progenitor cell line. The companies anticipate jointly launching 35 cell lines and associated ESpan™ growth media within the coming 12 months. The Embryome Sciences products distributed by Millipore may also be purchased directly from Embryome Sciences at [Embryome.com](http://Embryome.com).

Embryome Sciences also acquired an array of hES cell lines carrying inherited genetic diseases such as cystic fibrosis and muscular dystrophy, which will also be available for sale online at [Embryome.com](http://Embryome.com).

Additional new products that Embryome Sciences has targeted for development are ESpY™ cell lines, which will be derivatives of hES cells that will send beacons of light useful in tracking the cells for research purposes. Embryome Sciences also plans to bring to market other new growth and differentiation factors that will permit researchers to manufacture specific cell types from hES 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.

On April 29, 2009, CIRM awarded us a \$4,721,706 grant for a stem cell research project related to our ACTCellerate™ embryonic stem cell technology. In our CIRM-funded research project, we will work with hEPCs generated using our ACTCellerate™ embryonic stem cell technology. We will work on identifying antibodies and other cell purification reagents that may be useful in the production of hEPCs that can be used to develop pure therapeutic cells such as nerve, blood vessel, heart muscle, cartilage, and skin.

## Results of Operations

Under our license agreements with Hospira and CJ, our licensees report sales of Hextend and pay 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 were not recognized until the first quarter of fiscal year 2009.

### Three and Six Months Ended June 30, 2009 and Three and Six Months Ended June 30, 2008

Our royalty revenues for the three months ended June 30, 2009 consist of royalties on sales of Hextend made by Hospira and CJ during the period beginning January 1, 2009 and ending March 31, 2009. Royalty revenues recognized for that three-month period were \$351,724, a 3% increase from \$341,153 of royalty revenue during the same period last year. Royalty revenues recognized for the six-month period ended June 30, 2009 were \$574,391, a 13% decrease from \$650,053 of royalty revenue during the same period last year. The increase in royalties reflects an increase in sales both to hospitals and to the United States Armed Forces, offset somewhat by a decrease in sales to hospitals. Purchases by the Armed Forces generally take the form of intermittent, large volume orders, and cannot be predicted with certainty.

We recognized \$73,226 and \$67,725 of license fees from CJ and Summit during the three months ended June 30, 2009 and the three months ended June 30, 2008, respectively. We recognized \$146,452 and \$133,908 of license fees from CJ and Summit during the six months ended June 30, 2009 and the six months ended June 30, 2008, respectively. Full recognition of license fees 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. See Notes 2 and 4 to the condensed interim financial statements.

We received royalties of \$208,350 from Hospira and \$14,976 from CJ during August 2009 based on sales of Hextend during the three months ended June 30, 2009. This revenue will be reflected in our financial statements for the second quarter of 2009. For the same period last year, we received royalties of \$341,391 from Hospira and \$24,143 from CJ. Royalties from CJ were included in license fees during accounting periods prior to January 1, 2009.

Research and development expenses were \$639,594 for the three months ended June 30, 2009, compared to \$416,978 for the three months ended June 30, 2008. This increase is primarily attributable to an increase of \$103,721 in laboratory supplies and expenses, an increase of \$50,683 in salaries and related payroll fees and taxes allocated to research and development, an increase of \$35,963 in rent allocated to research and development, an increase of \$29,661 in outside research expenses, and an increase of \$6,224 in scientific consulting expenses. These increases were offset to some extent by a decrease of \$2,646 in utilities allocated to research and development.

Research and development expenses were \$1,165,418 for the six months ended June 30, 2009, compared to \$764,129 for the six months ended June 30, 2008. This increase is primarily attributable to an increase of \$133,376 in laboratory supplies and expenses, an increase of \$130,797 in rent allocated to research and development, an increase of \$127,949 in salaries and related payroll fees and taxes allocated to research and development, an increase of \$27,135 in outside research expenses. These increases were offset to some extent by a decrease of \$11,701 in insurance expense allocated to research and development.

Research and development expenses include laboratory study expenses, salaries, rent, insurance, and consultants' fees.

General and administrative expenses increased to \$900,146 for the three months ended June 30, 2009, from \$532,358 for the three months ended June 30, 2008. This increase is primarily attributable to an increase of \$266,526 in stock appreciation rights compensation liability expenses, an increase of \$62,920 in general and administrative consulting fees, an increase of \$30,339 in expenses related to outside services, an increase of \$26,891 in legal fees, an increase of \$10,560 in storage fees, an increase of \$9,009 in travel and entertainment expenses, and an increase of \$8,991 in rent allocated to general and administrative costs. These increases were offset in part by a decrease of \$31,802 in accounting fees, and a decrease of \$16,736 in office supplies and expenses.

General and administrative expenses increased to \$1,582,320 for the six months ended June 30, 2009 from \$968,297 for the six months ended June 30, 2008. This increase is primarily attributable to an increase of \$465,267 in compensation liability expenses with respect to stock appreciation rights granted to certain executive officers, an increase of \$58,406 in outside services, an increase of \$36,437 in taxes, an increase of \$30,909 in travel and entertainment expenses, an increase of \$26,699 in rent allocated to general and administrative costs, and an increase in depreciation expense by \$13,863. These increases were offset in part by a decrease of \$18,731 in office supplies and expenses.

For the three months ended June 30, 2009, we incurred a total of \$365,539 of interest expense, compared to interest expense of \$126,528 for the three months ended June 30, 2008. For the six months ended June 30, 2009, we incurred a total of \$973,566 of net interest expense, compared to net interest expense of \$203,050 for the six months ended June 30, 2008. These increases for both the three and six months ended June 30, 2009 reflect an increase in borrowings under our revolving line of credit. Interest expense also includes an imputed cost arising from the right of Revolving Line of Credit Agreement lenders to exchange their promissory notes for BioTime common shares at a discounted price; for the three and six months ended June 30, 2009, the imputed cost so included in interest expense was \$68,064 and \$300,864, respectively. See Note 2 to the condensed interim financial statements.

During the three and six months ended June 30, 2009 and 2008, there were no Federal and state income taxes owed, since BioTime has substantial net operating loss carryovers and has provided a 100% valuation allowance for any deferred taxes.

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 was 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.

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 included 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 included 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 included 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.

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 exchange of the line of credit debt and accrued interest into common shares.

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 was chiefly attributable to a decrease by approximately \$5,700 in interest income due to lower cash balances and decrease by approximately \$5,000 in microcannula sales.

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

Year Ended December 31, 2007 and Year Ended December 31, 2006

For the year ended December 31, 2007, we recognized \$776,679 of royalty revenues, compared with \$933,478 recognized for the year ended December 31, 2006. This 17% decrease in royalties is attributable to a decrease in product sales by Hospira. The largest contributing factor to this overall decrease in royalties was a decrease in sales from the record large volume orders by the U.S. Armed Forces that we saw in the second half of 2006. Hextend is part of the Tactical Combat Casualty Care protocol and has been purchased by the U.S. Armed Forces through intermittent, large volume orders, which makes it difficult to predict sales to them in subsequent periods. The decrease in royalties from 2006 was partially offset by a continued increase in sales to hospitals along with unit price increases to hospitals.

We recognized \$255,549 and \$172,371 of license fees from CJ and Summit during 2007 and 2006, respectively. Full recognition of license fees 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.

We were awarded a \$299,990 research grant by the NIH for use in the development of HetaCool. We were granted \$149,994 for the project during 2004 and \$149,996 during 2005. We have received \$254,244 of the grant funds through December 31, 2007. In 2007, the time period for drawing down the remainder of the grant funds was extended for another year, running through March 31, 2008.

Research and development expenses decreased to \$967,864 for the year ended December 31, 2007, from \$1,422,257 for the year ended December 31, 2006. The decrease was chiefly attributable to the conclusion of our Phase II trials of PentaLyte. Research and development expenses included laboratory study expenses, salaries, preparation of regulatory applications for our products, manufacturing of solution for trials, and consultants' fees.

General and administrative expenses decreased to \$1,300,630 for the year ended December 31, 2007 from \$1,491,622 for the year ended December 31, 2006. This change reflects a decrease of approximately \$21,000 in general and administrative salary expense due to a voluntary salary reduction plan in effect for the latter half of 2007, a decrease of approximately \$88,000 in general and administrative consulting expenses, a decrease of approximately \$32,000 in insurance costs charged to general and administrative expense, a decrease of approximately \$17,000 in investor/public relations expenses, a decrease of approximately \$32,000 in accounting expenses, a decrease of approximately \$34,000 in printing costs, and a decrease of approximately \$23,000 in patent expenses. These decreases were offset to some extent by an increase of approximately \$18,000 in office expenses and supplies, an increase of approximately \$2,000 in telephone charges allocated to general and administrative expense, an increase of approximately \$4,000 in miscellaneous expenses, and an increase of approximately \$32,000 in travel 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.

Our interest expense increased by approximately \$76,000 during 2007 primarily due to interest incurred on our lines of credit (See Note 3).

For the year ended December 31, 2007, other income decreased to \$16,926 from \$44,357 for the year ended December 31, 2006. The difference was chiefly attributable to decrease in interest income due to lower cash balances.

### Liquidity and Capital Resources

We may 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. Although we have recently been awarded a research grant from CIRM for a particular project, we must finance our other research and operations with funding from other sources. 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 payments from Hospira and approximately \$75,000 of royalty payments 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. At December 31, 2008, we had \$12,279 of cash and cash equivalents on hand and a line of credit for \$3,500,000 from which \$2,000,000 had been drawn.

During the six month period ended June 30, 2009 we received approximately \$576,000 of cash in our operations. The main source of this is entirely from royalty payments of \$531,000 from Hospira and approximately \$44,000 of royalty payments from CJ. During the same period our total research and development expenditures were approximately \$1,165,000 and our administrative expenditures were approximately \$1,582,320.

Net loss for the six month period ended June 30, 2009 amounted to \$2,989,584. Net cash used in operating activities during this six month period amounted to \$1,956,513. The difference between the net loss and net cash used in operating activities during the six month period ended June 30, 2009 was primarily attributable to increase of \$504,719 in stock appreciation rights compensation liability, \$472,781 in amortization of deferred finance costs on line of credit, an imputed cost of \$300,864 arising from the right of Revolving Line of Credit Agreement lenders to exchange promissory notes for common shares, increase of \$78,133 in accrued interest expense on lines of credit, \$69,025 in stock-based compensation expense, and \$65,766 in amortization of deferred consulting fees; all of these were offset to some extent by a \$320,942 decrease in accounts payable and \$146,452 in amortization of deferred license revenues. Net loss for the six month period ended June 30, 2008 amounted to \$1,138,828. Net cash used in operating activities during this six month period amounted to \$773,482. The difference between the net loss and net cash used in operating activities during the six month period ended June 30, 2008 was primarily attributable to increase of \$155,241 in accounts payable, \$128,220 in amortization of deferred finance costs on line of credit, \$107,080 in stock-based compensation expense, increase of \$21,895 in accrued interest expense on lines of credit, and issuance of \$21,750 in common stock for services; all of these were offset to some extent by \$78,601 in amortization of deferred license revenues.



During the six month period ended June 30, 2009, \$6,651,925 in net cash was provided from our financing activities, which was primarily attributable to \$4,000,000 received from the issuance of common shares, draws of \$2,310,000 under our Revolving Line of Credit Agreement, and from proceeds from the exercise of stock options in the amount of \$633,750; these increases in net cash were offset to some extent by repayment of \$210,719 on principal borrowings under the Revolving Line of Credit Agreement, repayment of \$51,259 on principal borrowings on our other lines of credit, and payment of \$28,000 in financing costs incurred in connection with obtaining new borrowings under the Revolving Line of Credit Agreement. During the six month period ended June 30, 2008, \$1,187,381 in net cash was provided from our financing activities, which was primarily attributable to \$1,200,000 in borrowings, which was offset by repayment of \$12,169 under our Revolving Line of Credit Agreement.

At June 30, 2009, we had \$4,692,726 of cash and cash equivalents on hand and a line of credit for \$3,500,000 from which \$3,499,259 had been drawn. During May and July, 2009, we raised \$8,000,000 of equity capital through the sale of 4,400,000 common shares and 4,400,000 stock purchase warrants to two private investors. The warrants entitle the investors to purchase additional common shares at an exercise price of \$2.00 per share. The warrants will expire on October 31, 2010 and may not be exercised after that date. Our cash on hand at June 30, 2009 does not include the \$4,000,000 we received in July 2009 from the sale of a portion of those shares and warrants.

In April 2009, CIRM awarded us a \$4,721,706 grant for a stem cell research project related to our ACTCellerate™ technology. CIRM will provide funding for the research project over a period of three years, with approximately \$1,600,000 expected to be available during the first 12 months. We expect that the first funds will be available some time during the summer of 2009 and that work on the project will be ready to begin upon the receipt of funding.

We have a Revolving Line of Credit Agreement (the "Credit Agreement") with certain private lenders that permits us 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 December 1, 2009, at which time the outstanding principal balance of the loans plus accrued interest will be due and payable. Loans under the Credit Agreement are 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 extended the term of the Credit Agreement and increased the amount of credit available to us. During April 2009, the maturity date of our Revolving Line of Credit was extended to December 1, 2009 with respect to \$2,669,282 in principal amount of loans. We repaid \$210,718 of principal and accrued interest on loans that matured on April 15, 2009 and were not extended. In addition, certain lenders exercised their right to exchange loans totaling \$550,000 of principal, plus accrued interest, for an aggregate of 381,605 of our common shares.

During April and May of 2009, we received new loans totaling \$810,000 under our revolving line of credit. As consideration for making these loan amounts available to us, we issued 20,784 common shares of BioTime stock to the lenders as per the terms of the Credit Agreement. Our borrowings under the Credit Agreement are therefore currently at maximum capacity, and unless some or all of the existing loans outstanding are retired or our credit limit is raised, no more Credit Agreement borrowings may be made.

Lenders who agreed to extend the maturity date of their outstanding loans to December 1, 2009 received from us a total of 91,526 common shares having an aggregate market value (based on closing price of the shares on the OTCBB) equal to six percent (6%) of the lender's loan commitment, as consideration for the extension of the term of their loans. We will issue additional common shares on the same basis to any lenders who provide additional loan commitments under our revolving line of credit.

During August 2009, we completed an exchange offer with the holders of the line of credit notes through which we issued 1,989,515 common shares and warrants to purchase 100,482 common shares in exchange for notes in the aggregate principal amount of \$3,349,259. We also paid interest in the aggregate amount of \$294,351 on the notes tendered in the exchange offer.

The warrants issued in the exchange offer are exercisable at a price of \$2.00 per share, subject to adjustment under the terms of a warrant agreement governing the warrants, and will expire at 5:00 p.m. EST on October 31, 2010.

Revolving credit notes in the amount of \$150,000 remain outstanding and will be payable with accrued interest upon maturity on December 1, 2009 unless converted into equity by the note holder per the terms of the Credit Agreement. 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 \$1.50 to \$2.00 per share, or for Embryome Sciences shares at prices ranging from \$2.75 to \$3.50 per share, until December 1, 2009. The foregoing per share exchange prices are subject to proportional adjustment in the event of a stock split, reverse stock split, or similar event.

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. On June 11, 2009, BioTime paid American Express \$20,413, which paid off this line of credit in full. BioTime no longer has any borrowings under this line of credit. See Note 3 to the 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. On June 9, 2009, BioTime paid Advanta \$32,495, which paid off this line of credit in full. BioTime no longer has any borrowings under this line of credit. See Note 3 to our consolidated financial statements for additional information.

As of June 30, 2009 and December 31, 2008, the deferred debt discount was approximately \$313,000 and \$243,000, respectively. These amounts will be amortized over the remaining period of underlying outstanding debt.

We had no contractual obligations as of June 30, 2009, with the exception of fixed, non-cancelable operating leases 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 and our research grant from CIRM as our principal source of revenues for the near future. Our royalty revenues from Hospira and CJ 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 and scope 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.

#### Quantitative and Qualitative Disclosures About Market Risk.

We did not hold any market risk sensitive instruments as of June 30, 2009, December 31, 2008, or December 31, 2007.

## MANAGEMENT

### Directors

The names and ages of our directors are as follows:

Michael D. West, Ph.D., 56, became our Chief Executive Officer during October 2007, and has served on the Board of Directors since 2002. 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 Chief Executive Officer, President, and Chief Scientific Officer of Advanced Cell Technology, Inc., a company 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., 56, 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., 67, is our Vice President of Regulatory/Quality Control, 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, 56, 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 A. Gregg, Ph.D., 57, joined the Board of Directors during October 2004. Dr. 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, Dr. 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. Dr. 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*.

Neal C. Bradsher, CFA, 44, joined the Board of Directors during July 2009. Mr. Bradsher has been President of Broadwood Capital, Inc., a private investment firm, since 2002. Previously, he was a Managing Director at Whitehall Asset Management, Inc. from 1999 to 2002. Earlier in his career Mr. Bradsher was a Managing Director at Campbell Advisors, as well as a senior equity analyst at Alex Brown & Sons and Hambrecht & Quist. Mr. Bradsher holds a B.A. degree in economics from Yale College and is a Chartered Financial Analyst. Mr. Bradsher is also a director of Questcor Pharmaceuticals, Inc.

Arnold I. Burns, 79, joined the Board of Directors during July 2009. Mr. Burns has been Chairman of QuanStar Group, LLC, a strategic management consulting firm, since 2004. Mr. Burns was a managing director of Arnhold and S. Bleichroeder, Inc. from 1999 to 2002, and Natixis Bleichroeder, Inc. during 2002. Mr. Burns was a practicing attorney for nearly 40 years. From 1989 to 1999 he was a partner in the New York law firm of Proskauer Rose, LLP, and from 1986-1988 he was Deputy United States Attorney General, the Chief Operating Officer of the Department of Justice. Mr. Burns holds a J.D. degree from Cornell Law School.

Abraham E. Cohen, 73, joined the Board of Directors during July 2009. Mr. Cohen is an independent international business consultant and is Chairman and President of Kramex Company, a privately owned consulting firm. From 1982 to 1992, Mr. Cohen served as Senior Vice President of Merck & Co., and from 1977 to 1988 as President of the Merck Sharp & Dohme International Division. While at Merck, he played a key role in the development of Merck's international business, initially in Asia, then in Europe and, subsequently, as President of MSDI, which manufactures and markets human health products outside the United States. Mr. Cohen serves as a director of the following other public companies: Chugai Pharmaceutical Co., Ltd., MannKind Corporation, Teva Pharmaceutical Industries, Ltd., Neurobiological Technologies, Inc., and Vasomedical, Inc.

Alfred D. Kingsley, 66, joined the Board of Directors and became Chairman of the Board during July 2009. Mr. Kingsley has been general partner of Greenway Partners, L.P., a private investment firm, and President of Greenbelt Corp., a business consulting firm, since 1993. Greenbelt Corp. served as our financial advisor from 1998 until June 30, 2009. Mr. Kingsley was Senior Vice President of Icahn and Company and its affiliated entities for more than 25 years. Mr. Kingsley holds a BS degree in economics from the Wharton School of the University of Pennsylvania, and a J.D. degree and LLM in taxation from New York University Law School.

Pedro Lichtinger, 55, joined the Board of Directors during August 2009. Mr. Lichtinger served as an executive of Pfizer, Inc. from 1995 to 2009, including as President of Pfizer's Global Primary Care Unit from 2008 to 2009, Area President, Europe from 2006 to 2008, President, Global Animal Health from 1999 to 2006, and Regional President Europe Animal Health from 1995 to 1999. Before joining Pfizer, Mr. Lichtinger was an executive of Smith Kline Beecham, last serving as Senior Vice President Europe Animal Health from 1987 to 1995. Mr. Lichtinger holds an MBA degree from the Wharton School of Business and an Engineering degree from the National University of Mexico.

#### Director Independence

Neal C. Bradsher, Arnold I. Burns, Robert N. Butler, Abraham E. Cohen, Pedro Lichtinger, and Valeta Gregg, qualify as "independent" in accordance with Section 803(A) of the American Stock Exchange ("AMEX") listing standards and Section 10A-3 under the Securities Exchange Act of 1934, as amended. Our independent directors received no compensation or remuneration for serving as directors except as disclosed under "Director Compensation."

The only compensation or remuneration that BioTime has provided to Mr. Bradsher, Mr. Burns, Dr. Butler, Mr. Cohen, and Dr. Gregg during their tenure as directors has been compensation as non-employee directors. None of these directors, nor any of the members of their families have, participated in any transaction with us that would disqualify them as "independent" directors under the standard described above.

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. Alfred D. Kingsley does not qualify as "independent" because he is the principal shareholder and president of Greenbelt Corp., which received more than \$200,000 of compensation from us in one or more of the preceding three fiscal years for services rendered as our financial advisor.

#### Committees of the Board

The Board of Directors has an Audit Committee, a Compensation Committee, and a Nominating/Corporate Governance Committee. The charters of each of those committees requires the members to be directors who are independent in accordance with Section 803(A) of the AMEX listing standards and Section 10A-3 under the Securities Exchange Act of 1934, as amended. These committees were not operative during the fiscal year ended December 31, 2008 because we did not have a sufficient number of directors who qualified as "independent" to serve on the committees during that time frame.



#### Audit Committee

The members of the Audit Committee are Arnold I. Burns, Abraham E. Cohen, and Robert N. Butler. Mr. Burns is the Chairman of the Committee. The purpose of the Audit Committee is to recommend the engagement of our independent auditors, to review their performance and the plan, scope and results of the audit, and to review and approve the fees we pay to our independent auditors. The Audit Committee also will review our accounting and financial reporting procedures and controls, and all transactions between us and our executive officers, directors, and shareholders who beneficially own 5% or more of the common shares.

#### Nominating /Corporate Governance Committee

The members of the Nominating/Corporate Governance Committee are Neal C. Bradsher, Robert M. Butler, and Abraham E. Cohen. Mr. Bradsher is the Chairman of the Committee. The purpose of the Nominating Committee is to recommend to the Board of Directors individuals qualified to serve as directors and on committees of the Board.

#### Compensation Committee

The members of the Compensation Committee are Arnold I. Burns, Robert M. Butler, and Pedro Lichtinger. Dr. Butler is the Chairman of the Committee. The Compensation Committee will oversee our compensation and employee benefit plans and practices, including executive compensation arrangements and incentive plans. The Compensation Committee will administer our 2002 Stock Option Plan and will make grants of options to key employees, consultants, and independent contractors, but not to directors. Grants of options to directors may be recommended by the Compensation Committee but must be approved by the Board of Directors.

#### Compensation of Directors

During 2008, of the two directors who were not then employees, one received options to purchase 20,000 common shares exercisable at \$0.44 per share, which was the closing price of the common shares reported on the OTCBB on April 30, 2008, and the other received options to purchase 25,000 common shares exercisable at \$0.68 per share, which was the closing price of the common shares reported on the OTCBB on July 31, 2008. The options granted to these directors vested and became exercisable in equal quarterly installments based on continued service on the Board of Directors.

During July 2009, our Board of Directors implemented a revised compensation plan for non-employee directors. Non-employee directors, other than the Chairman of the Board of Directors, will receive an annual fee of \$15,000 in cash, plus \$1,000 for each regular or special meeting of the Board attended, and options to purchase 20,000 common shares under our 2002 Stock Option Plan. The Chairman of the Board of Directors will receive an annual fee of \$80,000 in cash, plus \$1,000 for each regular or special meeting of the Board attended, and options to purchase 50,000 common shares under the 2002 Stock Option Plan.

The annual fee of cash will be paid, and the stock options granted will vest and become exercisable, in four equal quarterly installments, provided that the non-employee director remains a director on the last day of the applicable quarter. The options will expire if not exercised five years from the date of grant.

Two non-employee directors each received \$7,500 in cash and options to purchase 10,000 common shares, which are now fully vested and exercisable, under our 2002 Stock Option Plan for their service on the Board from January 1, 2009 through June 30, 2009.

Directors and members of committees of the Board of Directors who are our employees are entitled to receive compensation as employees but are not compensated for serving as directors or attending meetings of the Board or committees of the Board. All directors are entitled to reimbursements for their out-of-pocket expenses incurred in attending meetings of the Board or committees of the Board.

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.

## 2008 DIRECTOR COMPENSATION

Name	Fees Earned or Paid In Cash	Option Awards	Total
Valeta Gregg(1)	\$—	\$7,710	\$7,710
Robert N. Butler(2)	\$—	\$13,098	\$13,098

(1) At December 31, 2008 Dr. 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.

## Executive Officers

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

Robert W. Peabody, CPA, 55, 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.

Walter Funk, Ph.D., 49, became our Vice President—Stem Cell Technology during August 2009. Before joining BioTime, Dr. Funk was a managing director of Parallax Venture Partners, a venture capital firm focused on investing in early stage biotechnology companies. Before co-founding Parallax Venture Partners in 2007, Dr. Funk served for approximately five years as Vice President of Research of Nuvelo, Inc., a biotechnology and drug development company. Previously, Dr. Funk was Director of DNA Sequencing at Hyseq, Inc., and was a research scientist at Geron Corp. where, among other projects, he detailed descriptions of gene expression patterns in human embryonic stem cells. Dr. Funk received his Ph.D. in Biochemistry from the University of British Columbia.

## Executive Compensation

Our compensation policies have been influenced by the need to attract and retain executives with the scientific and management expertise to conduct our product development program in a highly competitive industry dominated by larger, more highly capitalized companies. Executive compensation is also influenced by the cost of living in the San Francisco Bay Area. These factors have been balanced against our financial position and capital resources.

Executive compensation may be composed of three major components: (i) base salary; (ii) annual variable performance awards payable in cash and tied to the attainment of company objectives and the officer's achievement of personal goals; and (iii) long-term stock-based incentive awards (stock options) designed to strengthen the mutuality of interests between the executive officers and the shareholders.

An annual bonus may be earned by each executive officer based upon the achievement of personal and company performance goals. Because we are still conducting research and development, and have not attained a level of profitability, the use of performance milestones based upon profit levels and return on equity as the basis for incentive compensation has not been considered appropriate. Instead, the incentive awards in the past have been tied to the achievement of personal and company performance targets. Performance goals have varied from year to year according to the stage of our operations and financial position. Important milestones that have been considered by the Board in determining incentive bonuses in the past have been (i) procuring additional capital, (ii) licensing products, (iii) completing specified research and development goals, and (iv) achieving organizational goals. Personal goals are related to the functional responsibility of each executive officer. During 2008, the directors determined that the evaluation of executive officer performance for the award of bonuses, other than the bonus formulas included in the employment agreements for Michael West and Robert Peabody, was not presently appropriate because we were not in a financial position to award any bonuses at this time.

During 2009, the Board approved funding a cash bonus pool of \$50,000 as an incentive for employees, and delegated to the Chief Executive Officer the authority to make bonus awards from that cash pool to employees, including officers, based on his determination that the employee's performance merits an incentive award.

Michael West and Robert Peabody became executive officers during October 2007. At that time the Board approved their compensation, which was an amount less than the salaries they had been earning at their previous place of employment. The Board determined that their starting compensation was set at a level less than executive officers of similar experience would receive in the San Francisco Bay Area. In addition, a portion of their potential total compensation consists of a bonus equal to a percentage of any consulting fees or research grants that we receive, subject to a stated maximum annual bonus award.

The Board did not have a standing Compensation Committee during the year ended December 31, 2008, and the Board as a whole approved, all executive compensation. Our executive officers who serve on the Board did not vote on matters pertaining to their own personal compensation. The Compensation Committee has now been reconstituted with three independent directors as the members and will make recommendations to the Board with respect to future compensation of our executive officers.

### Compensation of Our Chief Executive Officer

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 under the 2002 Stock Option 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 Stock Option Plan and a Stock Option Agreement consistent with the 2002 Stock Option 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 Option Plan increasing the number of common shares available under the 2002 Stock Option 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 Stock Option 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.

## Compensation of Our Senior Vice President and Chief Operating Officer

During October 2007, we also entered into an employment agreement with Robert W. Peabody, our Senior Vice President and Chief Operating Officer, under which he is entitled to receive an annual salary of \$160,000, an annual bonus equal to the lesser of (A) \$45,000 or (B) the sum of 35% of Consulting Fees and 3.5% of Grant Funds determined on the same basis used to determine the annual bonus under Dr. West's employment agreement. Mr. Peabody was granted an option to purchase 500,000 common shares under the 2002 Stock Option Plan, which was paired with SARs with respect to 325,530 shares. The exercise price of Mr. Peabody's option and the SARs is \$0.50. The option and SAR vesting and expiration provisions, and the termination and severance compensation provisions of Mr. Peabody's employment agreement, are the same as those in Dr. West's employment agreement.

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:

2008 SUMMARY COMPENSATION TABLE

Name and principal position	Year	Salary	Bonus	Stock awards	Option awards	Nonequity incentive compensation	Nonqualified deferred earnings compensation	All other compensation	Total
Michael D. West Chief Executive Officer	2008	\$ 250,000	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 24,500	\$ 274,500
	2007	\$ 62,500	\$ —	\$ —	\$ 9,819	\$ —	\$ —	\$ —	\$ 72,319
Robert W. Peabody 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 2008 FISCAL YEAR-END

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

## Insider Participation in Compensation Decisions

Our Board of Directors did not have a standing Compensation Committee during the year ended December 31, 2008. Instead, the Board of Directors as a whole was responsible for approval of all executive compensation during the fiscal year. Executive officers who also serve on the Board of Directors did not vote on matters pertaining to their own personal compensation. During August 2009, the Board of Directors reconstituted the Compensation Committee, the members of which are all independent and will make recommendations to the entire Board with respect to the future compensation of executive officers.



## PRINCIPAL SHAREHOLDERS

The following table sets forth information as of August 21, 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 Shares	Percent of Total
Alfred D. Kingsley(1) Gary K. Duberstein Greenbelt Corp. Greenway Partners, L.P. Greenhouse Partners, L.P. 150 E. 57th Street New York, New York 10022	10,596,666	29.77%
Neal C. Bradsher(2) Broadwood Partners, L.P. Broadwood Capital, Inc. 724 Fifth Avenue, 9th Floor New York, NY 10019	8,325,300	22.98%
George Karfunkel(3) 59 Maiden Lane New York, NY 10038	4,997,217	14.35%

(1) Includes 2,097,985 shares presently owned by Greenbelt Corp, 337,632 shares that may be acquired by Greenbelt Corp. upon the exercise of certain warrants, 550,287 shares owned by Greenway Partners, L.P., 353,705 shares that may be acquired by Greenway Partners, L.P. upon the exercise of certain warrants, 4,953,432 shares owned solely by Alfred D. Kingsley, 2,278,189 shares that may be acquired by Mr. Kingsley upon the exercise of warrants, 12,500 shares that may be acquired by Mr. Kingsley upon the exercise of certain stock options, 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. Excludes 37,500 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. 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 4,669,249 shares owned by Broadwood Partners, L.P., 3,608,143 shares that may be acquired by Broadwood Partners, L.P. upon the exercise of certain warrants, 37,358 shares owned by Neal C. Bradsher, 5,550 shares that may be acquired by Mr. Bradsher upon the exercise of certain warrants and 5,000 shares that may be acquired upon the exercise of certain stock options. Excludes 15,000 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. 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.

(3) Includes 2,782,217 shares owned by George Karfunkel, and 2,215,000 shares that may be acquired by Mr. Karfunkel upon the exercise of certain warrants.

## Security Ownership of Management

The following table sets forth information as of August 21, 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 Shares	Percent of Total
Alfred D. Kingsley(1)	10,596,666	29.77%
Neal C. Bradsher(2)	8,325,300	22.98%
Judith Segall(3)	667,669	2.03%
Michael D. West(4)	635,000	1.91%
Hal Sternberg(5)	365,201	1.12%
Harold D. Waitz(6)	302,625	*
Robert W. Peabody(7)	191,667	*
Steven A. Seinberg (8)	82,500	*
Valeta Gregg(9)	55,000	*
Robert N. Butler, M.D.(10)	40,000	*
Arnold I. Burns (11)	15,000	*
Walter Funk(12)	11,458	*
Abraham E. Cohen(13)	5,000	*
Pedro Lichtinger(14)	2,500	*
All officers and directors as a group (14 persons)(15)	21,295,985	52.30%

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\* Less than 1%

(1) Includes 2,097,985 shares presently owned by Greenbelt Corp, 337,632 shares that may be acquired by Greenbelt Corp. upon the exercise of certain warrants, 550,287 shares owned by Greenway Partners, L.P., 353,705 shares that may be acquired by Greenway Partners, L.P. upon the exercise of certain warrants, 4,953,432 shares owned solely by Alfred D. Kingsley, 2,278,189 shares that may be acquired by Mr. Kingsley upon the exercise of warrants, 12,500 shares that may be acquired by Mr. Kingsley upon the exercise of certain stock options, 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. Excludes 37,500 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. 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 4,669,249 shares owned by Broadwood Partners, L.P., 3,608,143 shares that may be acquired by Broadwood Partners, L.P upon the exercise of certain warrants, 37,358 shares owned by Neal C. Bradsher, 5,550 shares that may be acquired by Mr. Bradsher upon the exercise of certain warrants and 5,000 shares that may be acquired upon the exercise of certain stock options. Excludes 15,000 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. 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.
- (3) Includes 205,000 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.
- (4) Includes 635,000 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 925,000 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.
- (5) Includes 80,000 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.
- (6) Includes 2,952 shares held for the benefit of Dr. Waitz's children, 80,000 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).
- (7) Includes 191,667 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 308,333 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 80,000 shares that may be acquired upon the exercise of certain options.
- (9) Includes 55,000 shares that may be acquired upon the exercise of certain options that are presently exercisable or that may become exercisable within 60 days. Excludes 15,000 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.
- (10) Includes 40,000 shares that may be acquired upon the exercise of certain options that are presently exercisable or that may become exercisable within 60 days. Excludes 15,000 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.
- (11) Includes 5,000 shares that may be acquired upon the exercise of certain options that are presently exercisable or that may become exercisable within 60 days. Excludes 15,000 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.
- (12) Includes 11,458 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 263,542 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.

(13) Includes 5,000 shares that may be acquired upon the exercise of certain options that are presently exercisable or that may become exercisable within 60 days. Excludes 15,000 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.

(14) Includes 2,500 shares that may be acquired upon the exercise of certain options that are presently exercisable or that may become exercisable within 60 days. Excludes 17,500 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.

(15) Includes 8,101,671 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.

#### Certain Relationships and Related Transactions

##### 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, 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 our 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, L.P. 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. A subsequent amendment to the Credit Agreement during April 2009 extended the maturity date of the line of credit to December 1, 2009. 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.

On November 15, 2008, George Karfunkel exercised his option to convert his loan in the amount of \$250,000 and related interest accrued in the amount of \$16,025 to BioTime common shares in accordance with the terms of the Credit Agreement.

As of June 30, 2009, we were obligated on loans in the amount of \$1,025,000 from Broadwood Partners, L.P., \$250,000 from Alfred D. Kingsley, \$204,154 from Greenway Partners, L.P., \$100,000 from Greenbelt Corp., and \$500,000 from George Karfunkel. We made cash payments for interest in the amounts of \$44,325 to Broadwood Partners, L.P. and \$11,425 to Alfred D. Kingsley on loans made under the Credit Agreement during 2008. Interest accrued on loans from Broadwood Partners, L.P., Alfred D. Kingsley, and Greenway Partners, L.P. as of December 31, 2008 was \$8,250, \$20,000, and \$19,183, respectively, which became payable on April 15, 2009, and which has since been paid in full.

Under the Credit Agreement, we issued common shares to lenders who agreed to provide loans and to extend the maturity date of their outstanding loans. From January 1, 2007 through April 15, 2009, we issued 230,348 common shares to Broadwood Partners, L.P., 117,243 common shares to Alfred D. Kingsley, 77,405 common shares to Greenway Partners, L.P., 6,144 common shares to Greenbelt Corp., and 396,502 common shares to George Karfunkel under the Credit Agreement.

During August 2009, we completed an exchange offer with the lenders under our Credit Agreement, through which we issued 1,989,515 common shares and 100,482 common share purchase warrants, and we paid \$294,351 in interest, to lenders in exchange for \$3,349,259 of Credit Agreement promissory notes. The warrants issued in the exchange offer are exercisable at a price of \$2.00 per share, subject to adjustment under the terms of a warrant agreement governing the warrants, and will expire at 5:00 p.m., New York time, on October 31, 2010. See Note 10 to Consolidated Financial Statements for additional information about the exchange offer.

The following table shows the number of common shares and warrants issued to certain shareholders in exchange for their line of credit promissory notes.

Name	Number of Shares	Number of Warrants	Amount of Notes Exchanged
Alfred D. Kingsley	166,667	7,500	\$ 250,000
Greenbelt Corp.	57,143	3,000	\$ 100,000
Greenway Partners, L.P.	136,103	6,125	\$ 204,167
Broadwood Partners, L.P.	638,096	30,750	\$ 1,025,000
George Karfunkel	285,715	15,000	\$ 500,000



The following table shows the amount of interest we paid on the promissory notes tendered in the exchange offer by certain shareholders: We paid each tendering note holder all interest accrued plus the amount of interest that would have accrued had the note holder held their note to maturity.

Name	Interest Received
Alfred D. Kingsley	\$ 18,833.33
Greenbelt Corp.	\$ 7,533.33
Greenway Partners, L.P.	\$ 15,379.60
Broadwood Partners, L.P.	\$ 77,216.67
George Karfunkel	\$ 49,833.33

During 2008, we issued a warrant to purchase 100,000 of our common shares at an exercise price of \$0.68 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.

During May and July 2009, we sold 2,200,000 common shares and 2,200,000 stock purchase warrants to Broadwood Partners, L.P. for \$4,000,000, and we concurrently sold a like number of shares and warrants at the same price to George Karfunkel. The warrants are on substantially the same terms as our publicly traded warrants and entitle Broadwood Partners and the other investor to purchase common shares at an exercise price of \$2.00 per share. The warrants will expire on October 31, 2010 and may not be exercised after that date. We have agreed to file a registration statement to register the warrants and shares issuable upon the exercise of the warrants for sale under the Securities Act, subject to certain limitations. We have also agreed to file a registration statement to register the common shares, or to permit the investors to include the common shares in any future registration statements that we may file, after May 15, 2010, subject to certain limitations.

## DESCRIPTION OF SECURITIES

### Common Shares

Our Articles of Incorporation currently authorize the issuance of up to 50,000,000 common shares, no par value, of which 32,614,563 shares were outstanding at August 21, 2009. As of August 17, 2009 our common shares were held by approximately 7,746 persons based upon the share position listings. Each holder of record is entitled to one vote for each outstanding common share owned by him on every matter properly submitted to the shareholders for their vote. During August 2009, our Board of Directors approved an amendment of our Articles of Incorporation that will increase the authorized number of common shares to 75,000,000, if approved by our shareholders.

Subject to the dividend rights of holders of any of the preferred shares that may be issued from time to time, holders of common shares are entitled to any dividend declared by the Board of Directors out of funds legally available for that purpose. We have not paid any cash dividends on our common shares, and it is unlikely that any cash dividends will be declared or paid on any common shares in the foreseeable future. Instead, we plan to retain our cash for use in financing our future operations and growth.

Subject to the prior payment of the liquidation preference to holders of any preferred shares that may be issued, holders of common shares are entitled to receive on a pro rata basis all of our remaining assets available for distribution to the holders of common shares in the event of the liquidation, dissolution, or winding up of our operations. Holders of common shares do not have any preemptive rights to become subscribers or purchasers of additional shares of any class of our capital stock.

#### Preferred Shares

Our Articles of Incorporation currently authorize the issuance of up to 1,000,000 preferred shares, no par value. We may issue preferred shares in one or more series, at any time, with such rights, preferences, privileges and restrictions as the Board of Directors may determine, all without further action of our shareholders. Any series of preferred shares which may be authorized by the Board of Directors in the future may be senior to and have greater rights and preferences than the common shares. There are no preferred shares presently outstanding and we have no present plan, arrangement or commitment to issue any preferred shares.

#### Warrants

As of August 21, 2009, 7,847,867 warrants were issued and outstanding ("Public Warrants"). In addition to those Public Warrants, we have also issued private warrants with similar terms without registration under the Securities Act ("Private Warrants"), and those Private Warrants are not included in this prospectus. The following description of warrants pertains only to those Public Warrants included in this prospectus.

Each full warrant entitles the holder to purchase one common share at a price of \$2.00 per share. The number of common shares and exercise price will be proportionally adjusted in the event of a stock split, stock dividend, combination or similar recapitalization of the common shares. The warrants will expire on October 31, 2010 and may not be exercised after that date.

Warrants may be exercised in whole or in part by presentation of a warrant certificate to the warrant agent and payment of the exercise price. The purchase form on the reverse side of the warrant must be signed by the warrant holder and the warrant holder's signature must be guaranteed by a financial institution that is a participant in a recognized signature guarantee program. Payment of the exercise price of the warrants must be made in cash or by certified or bank cashier's check or wire transfer. If your warrants are held in the name of Cede & Co. as nominee for The Depository Trust Company, or in the name of any other depository or nominee, you should contact your broker-dealer or other financial institution that holds your warrants in order to exercise them.

We may redeem the warrants by paying \$.05 per warrant if the closing price of the common shares on the AMEX or any other national securities exchange or the Nasdaq Stock Market exceeds 200% of the exercise price of the warrants for any 20 consecutive trading days before we send a notice of redemption to the warrant holders (the "Trigger Period"). We will give the warrant holders at least 20 days written notice of the redemption, setting the redemption date, and the warrant holders may exercise the warrants prior to the redemption date. The warrants may not be exercised after the last business day prior to the redemption date.

The redemption date will abate, and the notice of redemption will be of no effect, if the closing price or average bid price of our common shares does not equal or exceed 120% of the exercise price of the warrants on the redemption date and each of the five trading days immediately preceding the redemption date. However, we will have the right to redeem the warrants at a future date if the market price of the common shares again exceeds 200% of the exercise price for 20 consecutive trading days, as described above. In addition, we may not redeem the warrants unless a registration statement with respect to the warrants and underlying common shares is effective under the Securities Act during the Trigger Period and during the 20 day period ending on the redemption date.

Transfer Agent, Warrant Agent, and Registrar

The transfer agent, warrant agent, and registrar for the common shares and warrants is American Stock Transfer and Trust Company, 59 Maiden Lane, New York, New York 10038.

#### RESALE OF SHARES AND WARRANTS

During December 2005, we completed a subscription rights offer through which we sold 4,467,863 common shares and warrants to persons who exercised subscription rights and to certain persons who acted as Guarantors under a Standby Purchase Agreement. We also issued 600,000 warrants to the Guarantors in consideration of their agreement to acquire the units that remained unsold at the conclusion of the rights offer, excluding units reserved to fill over-subscriptions.

During January 2004, we completed a subscription rights offer through which we sold 2,560,303 common shares and 1,280,073 warrants to persons who exercised subscription rights. Following the completion of the 2004 rights offer, we sold an additional 428,571 common shares and 214,284 warrants under a Standby Purchase Agreement to certain persons who acted as Guarantors of the rights offer or who were assignees of one of the Guarantors. We also issued 250,000 warrants to the Guarantors and 500,000 warrants to person who acted as Participating Debenture Holders under the Standby Purchase Agreement in consideration of their agreement to acquire any units that might remain unsold at the conclusion of the rights offer, excluding units reserved to fill over-subscriptions.

During February 2004, we issued a total of 1,071,428 common shares and 535,712 warrants in exchange for \$1,500,000 of debentures held by certain persons who acted as Participating Debenture Holders under the Standby Purchase Agreement for the 2004 rights offer.

The Guarantors and Participating Debenture Holders have advised us that they may hold for investment purposes any common shares and warrants they acquired, or they may sell common shares and warrants from time to time on the OTCBB at prevailing market prices, or at prices related to the prevailing market price, or in privately negotiated transactions. They also may sell common shares in connection with the exercise of their warrants or they may hold those shares for investment purposes and sell them at later date.

The Guarantors and Participating Debenture Holders will bear all broker-dealer commissions payable in connection with the sale of their common shares and warrants. Broker-dealers who acquire common shares or warrants from the Guarantors and Participating Debenture Holders as principals may resell the shares and warrants from time to time in transactions on the OTCBB, or may resell the shares and warrants in negotiated transactions at prevailing market prices or at negotiated prices, and may receive usual and customary commissions from the purchasers of the shares and warrants.

The Guarantors and Participating Debenture Holders have advised us that during the time that they may be engaged in a distribution of their common shares and warrants they will (a) not engage in any stabilization activity in connection with our securities, (b) cause to be furnished to each broker through whom their shares or warrants may be offered the number of copies of this prospectus required by the broker, and (c) not bid for or purchase any of our securities or rights to acquire our securities, or attempt to induce any person do so, other than as permitted under the Securities Exchange Act of 1934, as amended. The Guarantors and Participating Debenture Holders and any broker-dealers who participate in the sale of their common shares and warrants may be deemed to be “underwriters” as defined in the Act. Any commissions paid or any discounts or concessions allowed to any broker-dealers in connection with the sale of the common shares and warrants, and any profits received on the resale of any shares and warrants purchased by broker-dealers as principals, may be deemed to be underwriting discounts and commissions under the Act.

The following table shows the number of our common shares beneficially owned by the Guarantors and Participating Debenture Holders prior to this offering, the maximum number of common shares that may be sold by them through this prospectus, and the amount and percentage of the outstanding common shares that will be owned by them after the completion of this offering assuming all of the shares covered by this prospectus are sold.

Name	Shares Owned(1)	Shares Offered	Shares Owned After Offering(1)	Percentage of Outstanding Common Shares Owned After Offering(1)
Broadwood Partners, L.P.	4,669,249(2)	1,103,635	3,565,614(2)	10.93 %
Goren Brothers, L.P.	349,484	97,402	252,082	*
Alfred D. Kingsley	4,953,432(3)	1,190,305	3,763,127(3)	11.54 %
Greenway Partners, LP	550,287 (4)	302,940	247,347 (4)	*

\* Less than 1%

(1) Does not include shares issuable upon the exercise of the warrants offered by this prospectus.

(2) Does not include shares that may be acquired upon the exercise of certain warrants owned by Broadwood Partners, L.P. Does not include 37,358 shares owned or that may be acquired upon the exercise of certain options owned by Neal C. Bradsher. Broadwood Capital, Inc. is the general partner of Broadwood Partners, L.P., and Neal C. 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.

(3) Does not include shares that may be acquired upon the exercise of certain options and warrants owned solely by Mr. Kingsley, or shares owned or that may be acquired upon the exercise of warrants by Greenbelt Corp. and Greenway Partners, L.P.

(4) Does not include shares that may be acquired upon the exercise of certain warrants owned solely by Greenway Partners, LP. Does not include shares owned or that may be acquired upon the exercise of warrants owned by Alfred D. Kingsley, Greenbelt Corp., or Gary K. Duberstein.

The following table shows the number of warrants beneficially owned by the Guarantors and Participating Debenture Holders prior to this offering, the maximum number of warrants that may be sold by them through this prospectus, and the amount and percentage of the outstanding warrants that will be owned by them after the completion of this offering assuming all of the warrants covered by this prospectus are sold.

Name	Warrants Owned	Warrants Offered	Warrants Owned After Offering	Percentage of Outstanding Warrants Owned After Offering
Broadwood Partners, LP	1,377,393 (1)	1,263,808	113,585 (1)	1.45 %
Goren Brothers, L.P.	103,530 (2)	94,155	9,375	0.12 %
Alfred D. Kingsley	2,270,689 (3)	1,344,435	926,254 (2)	11.80 %
Greenway Partners, L.P.	347,580 (4)	304,951	42,629	0.54 %
Cyndel & Co.	89,999	89,999	0	0 %

(1) Does not include 5,550 warrants owned by Neal Bradsher. Broadwood Capital, Inc. is the general partner of Broadwood Partners, L.P., and Neal C. 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. Does not include 2,230,750 Private Warrants that are not included in this prospectus.

(2) Does not include 6,000 Private Warrants that are not included in this prospectus.

(3) Does not include warrants owned by Greenbelt Corp. or Greenway Partners, LP. Does not include 7,500 Private Warrants that are not included in this prospectus.

(4) Does not include warrants owned by Alfred D. Kingsley or Greenbelt Corp. Does not include 6,125 Private Warrants that are not included in this prospectus

#### LEGAL MATTERS

The validity of the rights, common shares, and warrants will be passed upon for us by Lippenberger, Thompson, Welch, Soroko & Gilbert LLP, San Francisco and Corte Madera, California.

#### EXPERTS

The financial statements incorporated by reference in this prospectus have been audited by Rothstein, Kass & Company, P.C., independent registered public accounting firm, to the extent and for the periods set forth in their report incorporated herein by reference, and are incorporated herein in reliance upon such report given upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended, and in accordance therewith file quarterly, annual, and current reports and proxy statements and other information with the Securities and Exchange Commission. The public may read and copy any materials we file with Securities and Exchange Commission at the Commission's Public Reference Room at 100 F Street N.E., Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the Commission at 1-800-SEC-0330.

The Commission maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the Commission. The address of such site is <http://www.sec.gov>.

We make available free of charge on or through our Internet website [www.biotimeinc.com](http://www.biotimeinc.com) our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Commission.

We have filed with the Securities and Exchange Commission, 100 F Street N.E., Washington, D.C. a registration statement on Form S-1 amending our registration statements on Form S-2 under the Securities Act of 1933, as amended, for the registration of the shares and warrants offered by this prospectus. This prospectus, which is part of the registration statement, does not contain all of the information contained in the registration statement. For further information with respect to us and the securities offered by this prospectus, you should refer to the registration statement, including the exhibits thereto, which may be inspected, without charge, at the Office of the Securities and Exchange Commission, or copies of which may be obtained from the Commission in Washington, D.C. upon payment of the requisite fees. Statements contained in this prospectus as to the content of any contract or other document referred to are not necessarily complete. In each instance reference is made to the copy of the contract or other document filed as an exhibit to the registration statement, and each such statement is qualified in all respects by reference to the exhibit.

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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

BIOTIME, INC.  
CONSOLIDATED BALANCE SHEETS

	June 30, 2009 (Unaudited)	June 30, 2008 (Unaudited)	December 31, 2008	December 31, 2007
<b>ASSETS</b>				
<b>CURRENT ASSETS</b>				
Cash and cash equivalents	\$4,692,726	\$172,461	\$12,279	\$9,501
Prepaid expenses and other current assets	45,784	154,721	96,595	67,125
Total current assets	4,738,510	327,182	108,874	76,626
Equipment, net of accumulated depreciation of \$618,926, \$588,318, \$602,510 and \$585,765 in 2009, 2008 and 2007, respectively	98,230	11,316	105,607	12,480
Deferred license fees	870,000	250,000	750,000	--
Deposits	76,902	20,976	70,976	20,976
<b>TOTAL ASSETS</b>	<b>\$5,783,642</b>	<b>\$609,474</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	\$629,472	\$623,065	\$1,179,914	\$480,374
Lines of credit payable, net	3,314,033	1,924,156	1,885,699	651,517
Deferred license revenue, current portion	306,104	293,070	312,904	261,091
Total current liabilities	4,249,609	2,840,291	3,378,517	1,392,982
Stock appreciation rights compensation liability	988,407	52,603	483,688	13,151
Deferred license revenue, net of current portion	1,370,275	1,630,122	1,516,727	1,740,702
Deferred rent, net of current portion	3,156	7,347	3,339	9,636
Total long-term liabilities	2,361,838	1,690,072	2,003,754	1,763,489
<b>COMMITMENTS AND CONTINGENCIES</b>				
<b>SHAREHOLDERS' DEFICIT</b>				
Common shares, no par value, authorized 50,000,000 shares; issued and outstanding shares; 28,386,716, 23,694,374, 25,076,798 and 23,034,374 in 2009, 2008 and 2007, respectively	49,693,199	40,968,465	43,184,606	40,704,136
Contributed capital	93,972	93,972	93,972	93,972
Accumulated deficit	(50,614,976)	(44,983,326)	(47,625,392)	(43,844,497)
Total shareholders' deficit	(827,805 )	(3,920,889 )	(4,346,814 )	(3,046,389 )
<b>TOTAL LIABILITIES AND SHAREHOLDERS' DEFICIT</b>	<b>\$5,783,642</b>	<b>\$609,474</b>	<b>\$1,035,457</b>	<b>\$110,082</b>

See notes to the consolidated financial statements.

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BIOTIME, INC.  
CONSOLIDATED STATEMENTS OF OPERATIONS

	Three Months Ended (Unaudited)		Six Months Ended (Unaudited)		Years Ended	
	June 30, 2009	June 30, 2008	June 30, 2009	June 30, 2008	December 31, 2008	December 31, 2007
<b>REVENUES</b>						
License fees	\$73,226	\$67,725	\$146,452	\$133,908	\$277,999	\$255,549
Royalties from product sales	351,724	341,153	574,391	650,053	1,203,453	776,679
Grant income	6,800		6,800			13,893
Other revenues	340	1,685	1,190	7,620	22,340	
<b>Total revenues</b>	<b>432,090</b>	<b>410,563</b>	<b>728,833</b>	<b>791,581</b>	<b>1,503,792</b>	<b>1,046,121</b>
<b>EXPENSES</b>						
Research and development	(639,594 )	(416,978 )	(1,165,418 )	(764,129 )	(1,706,214 )	(967,864 )
General and administrative	(900,146 )	(532,358 )	(1,582,320 )	(968,297 )	(2,620,210 )	(1,300,630 )
<b>Total expenses</b>	<b>(1,539,740 )</b>	<b>(949,336 )</b>	<b>(2,747,738 )</b>	<b>(1,732,426 )</b>	<b>(4,326,424 )</b>	<b>(2,268,494 )</b>
<b>Loss from operations</b>	<b>(1,107,650 )</b>	<b>(538,773 )</b>	<b>(2,018,905 )</b>	<b>(940,845 )</b>	<b>(2,822,632 )</b>	<b>(1,222,373 )</b>
<b>OTHER INCOME (EXPENSES)</b>						
Interest expense	(365,539 )	(126,528 )	(973,566 )	(203,050 )	(965,781 )	(232,779 )
Other income	1,819	2,521	2,887	5,067	7,518	16,926
<b>Total other expenses, net</b>	<b>(363,720 )</b>	<b>(124,007 )</b>	<b>(970,679 )</b>	<b>(197,983 )</b>	<b>(958,263 )</b>	<b>(215,853 )</b>
<b>NET LOSS</b>	<b>\$(1,471,370 )</b>	<b>\$(662,780 )</b>	<b>\$(2,989,584 )</b>	<b>\$(1,138,828 )</b>	<b>\$(3,780,895 )</b>	<b>\$(1,438,226 )</b>
<b>BASIC AND DILUTED LOSS PER COMMON SHARE</b>						
	<b>\$(0.05 )</b>	<b>\$(0.03 )</b>	<b>\$(0.11 )</b>	<b>\$(0.05 )</b>	<b>\$(0.16 )</b>	<b>\$(0.06 )</b>
<b>WEIGHTED AVERAGE NUMBER OF COMMON SHARES OUTSTANDING: BASIC AND DILUTED</b>						
	<b>27,085,454</b>	<b>23,694,674</b>	<b>26,199,630</b>	<b>23,368,660</b>	<b>23,749,933</b>	<b>22,853,278</b>

See notes to the consolidated financial statements.

BIOTIME, INC.  
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' DEFICIT

	Common Shares			Total	
	Number of Shares	Amount	Contributed Capital	Accumulated Deficit	Shareholders' 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	200,000	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 line of 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 )
Common shares issued for line of credit (unaudited)	60,994	144,024			144,024
Common shares issued for conversion of line of credit and accrued interest (unaudited)	423,934	625,315			625,315
Common shares issued for extension of line of credit and accrued interest (unaudited)	92,212	160,157			160,157
Common shares issued for cash	2,200,000	4,000,000			4,000,000
Shares issued for services (unaudited)	135,000	229,500			229,500
Shares issued for license fees (unaudited)	65,278	120,000			120,000
Exercise of options (unaudited)	332,500	633,750			633,750
Beneficial conversion feature (unaudited)		304,400			304,400
FAS123R valuation of stock options vested (unaudited)		69,024			69,024
Warrants issued for line of credit (unaudited)		222,423			222,423
NET LOSS (unaudited)				(2,989,584 )	2,98
BALANCE AT JUNE 30, 2009 (unaudited)	28,386,716	\$49,693,199	\$93,972	\$(50,614,976)	\$ (827,805 )

See notes to the consolidated financial statements.



BIOTIME, INC.  
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Six Months Ended		Years Ended	
	June 30, 2009 (unaudited)	June 30, 2008 (unaudited)	December 31, 2008	December 31, 2007
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Net loss	\$(2,989,584)	\$(1,138,828)	\$(3,780,895)	\$(1,438,226)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation and amortization	16,416	2,553	16,745	4,833
Amortization of deferred license revenue	(146,452 )	(78,601 )	(277,999 )	(255,549 )
Amortization of deferred finance cost on lines of credit	472,781	128,220	321,514	61,486
Amortization of deferred consulting fees	65,766	--	19,409	--
Beneficial conversion feature on notes and interest	300,864	--	330,394	--
Common stock issued for services	--	21,750	137,250	--
Warrants issued for services	--	--	52,393	--
Stock-based compensation	69,025	107,080	134,518	151,059
Interest on royalty obligation	--	--	--	129,458
Changes in operating assets and liabilities:				
Accounts receivable	1,956	(593 )	754	3,675
Prepaid expenses and other current assets	(2,192 )	890	57,115	(33,632 )
Accounts payable and accrued expenses	(320,942 )	155,241	699,539	46,441
Accrued interest on lines of credit	78,133	21,895	114,938	21,600
Stock appreciation rights compensation liability	504,719	--	470,537	13,151
Deferred license revenue	--	--	105,840	53,987
Deferred grant income	(6,800 )	--	--	--
Deferred rent	183	6,911	(6,297 )	1,737
Net cash used in operating activities	(1,956,513)	(773,482 )	(1,604,245)	(1,239,980)
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>				
Payments for license fees	--	(250,000 )	(750,000 )	--
Purchase of equipment	(9,039 )	(1,389 )	(109,872 )	(6,473 )
Security deposit	(5,926 )	--	(50,000 )	--
Net cash used in investing activities	(14,965 )	(251,389 )	(909,872 )	(6,473 )
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>				
Repayments on lines of credit	(263,825 )	(12,169 )	(16,085 )	--
Borrowings on lines of credit	2,310,000	1,200,000	2,424,980	694,937
Deferred finance cost on lines of credit	(28,000 )	--	--	--
Proceeds from issuance of common shares for cash	4,000,000	--	100,000	--
Proceeds from exercise of stock options	633,750	--	8,000	--
Net cash provided by financing activities	6,651,925	1,187,381	2,516,895	694,937
<b>NET CHANGE IN CASH AND CASH EQUIVALENTS:</b>	4,680,447	162,960	2,778	(551,516 )
Cash and cash equivalents at beginning of period	12,279	9,501	9,501	561,017
Cash and cash equivalents at end of period	\$4,692,726	\$172,461	\$12,279	\$9,501

**SUPPLEMENTAL DISCLOSURE OF CASH FLOW  
INFORMATION:**

Cash paid during the period for interest	\$ 127,650	\$ 55,510	\$ 157,620	\$ 81,721
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**NON-CASH FINANCING AND INVESTING ACTIVITIES:**

Issuance of stock related to line of credit agreement	144,024	153,200	273,200	--
Common shares for line of credit conversion	625,315	--	1,442,409	106,000
Common shares for line of credit extension	160,157			
Common shares issued for accounts payable	229,500	43,500		
Common shares issued for deferred license fees	120,000	--	--	--
Issuance of warrants related to line of credit agreements	207,703	--	225,951	--
Warrants issued for services	14,719	--	106,749	--
Value of right to exchange promissory notes for stock	304,400	--	--	--

See notes to the 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.

Interim Financial Statements

The unaudited consolidated interim balance sheets as of June 30, 2009 and 2008, the unaudited consolidated interim statements of operations for the three and six months ended June 30, 2009 and 2008, the unaudited consolidated interim statements of cash flows for the six months ended June 30, 2009 and 2008, and the unaudited interim consolidated statement of stockholders' deficit for the six months ended June 30, 2009 have been prepared by BioTime's management in accordance with the instructions from the Form 10-Q and Article 8-03 of Regulation S-X. In the opinion of management, all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the financial position, results of operations, and cash flows at June 30, 2009 and for all interim periods presented have been made. The results of operations for the three and six months ended June 30, 2009 are not necessarily indicative of the operating results anticipated for the full year of 2009.

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. The three and six months ended June 30, 2009 and 2008 (unaudited) excludes any effect from options and warrants 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.

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### 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.

Unaudited:

Following an amendment to the Credit Agreement in April 2009, the maturity date of the Revolving Line of Credit was extended to December 1, 2009 with respect to \$2,669,282 in principal amount of loans. BioTime repaid \$223,834 of principal and accrued interest on loans that matured on April 15, 2009 and were not extended. In addition, during the six months ended June 30, 2009, certain lenders exercised their right to exchange \$625,315 of principal and accrued interest on loans for an aggregate of 423,934 BioTime common shares. The Revolving Line of Credit is essentially now fully subscribed, and BioTime may only borrow a minimal remaining amount under the amended Credit Agreement.

Lenders who agreed to extend the maturity date of their outstanding loans and lenders who provided the additional new loan commitments during the quarter ended June 30, 2009 received from BioTime a number of common shares having an aggregate market value (based on closing price of the shares on the OTC-BB) equal to six percent (6%) of the lender's loan commitment, as consideration for the extension of the term of their loans, or as consideration for making their new loan commitment. BioTime issued a total of 113,549 common shares to those lenders.

The lenders have the right to exchange their promissory notes for BioTime common shares and for shares of Embryome Sciences, Inc. common stock. Promissory notes that were exchangeable for BioTime common shares at a price of \$1.25 per share and Embryome Sciences common stock at a price of \$2.25 per share until April 15, 2009, may now be exchanged for BioTime common shares at \$1.50 per share and for Embryome Sciences common stock at \$2.75 per share until the extended maturity date, December 1, 2009. Promissory notes that were exchangeable for BioTime common shares at a price of \$1.50 and Embryome Sciences common stock at \$2.50 until April 15, 2009, may now be exchanged for BioTime common shares at \$1.75 per share and Embryome Sciences common stock at \$3.00 per share until the extended maturity date.

Promissory notes issued for new loan commitments will be exchangeable for BioTime common shares at a price of \$2.00 per share, and for Embryome Sciences common stock at \$3.50 per share until December 1, 2009. The foregoing per share exchange prices are subject to proportional adjustment in the event of a stock split, reverse stock split, or similar event.

BioTime also received a total of \$2,310,000 of new loans under the amended Credit Agreement during the six months ended June 30, 2009. BioTime recognized as part of its interest expense an imputed cost arising from the right of Credit Agreement lenders to exchange their promissory notes for BioTime common shares at a discounted price. BioTime determined the total imputed cost to be \$304,400 of which \$300,864 was charged to interest during the six months ended June 30, 2009, and the remaining portion of which will be charged as interest during the remaining term of the promissory notes.

On June 11, 2009, BioTime paid American Express \$20,413 and on June 9, 2009, paid Advanta \$32,495. These payments paid off the respective lines of credit in full. BioTime no longer has any borrowings under these lines of credit.

#### 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.

Unaudited:

In February 2009, BioTime's wholly owned subsidiary, Embryome Sciences, Inc., entered into a Stem Cell Agreement with Reproductive Genetic Institute ("RGI"). In partial consideration of the rights and licenses granted to Embryome Sciences, Inc., by RGI, BioTime issued to RGI 32,259 common shares, having a market value of \$50,000 on the effective date of the Stem Cell Agreement.

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 was 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.

## 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 included in Accounts Payable at January 1	Add: Cash-based expense accrued	Add: Stock-based expense accrued	Less: Cash payments	Less: Value of stock-based payments	Balance included in Accounts Payable at December 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 Shares	Per share warrant price	Weighted Average Exercise 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	\$.68-2.00	\$2.00
Granted in 2009 (unaudited)	2,377,500	2.00	2.00
Outstanding, June 30, 2009 (unaudited)	10,722,034	\$.68-2.00	\$1.99

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.

Unaudited:

Total shareholders' deficit was reduced by \$3,519,009, from \$4,346,814 at December 31, 2008 to \$827,805 at June 30, 2009. This reduction was due to issuances of BioTime common shares for \$4,000,000 in cash to two investors under Stock and Warrant Purchase Agreements dated May 13, 2009, to exercises of options at a total value of \$633,750, to issuances of BioTime common shares in the amount of \$144,024 for new loan commitments under our Credit Agreement, to debt converted to equity in the amount of \$625,315, to debt extended in the amount of \$160,157 in accordance with the Credit Agreement, to FAS 123R valuation of options and warrants vested during the quarter for a total value of \$291,447, to the right of Credit Agreement lenders to exchange promissory notes for common shares for a total value of \$304,400, and to the issuance of common shares for financial adviser services in the amount of \$229,500 and for deferred license fees of \$120,000. The impact of the reduction was partially offset by net loss of \$2,989,584 during the six months ended June 30, 2009.

## 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:

	Three Months Ended		Six Months Ended		Year Ended	
	June 30, 2009 (unaudited)	June 30, 2009 (unaudited)	June 30, 2009 (unaudited)	June 30, 2008 (unaudited)	December 31, 2008	December 31, 2007
All stock-based compensation expense:						
General and Administrative	\$37,487	\$41,345	\$69,024	\$60,984	\$206,321	\$48,058
Stock appreciation rights	286,252	19,726	504,719	39,452	470,537	13,151
All stock-based compensation expense included in operating expense	\$323,749	\$61,071	\$573,743	\$100,436	\$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 December 31, 2008	Year Ended December 31, 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 Plan1	2,000,000	-	-
Granted1	(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
Granted2	(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
Exercised (unaudited)	-	(332,500)	1.91
Expired (unaudited) 3	40,000	(99,500)	2.17
June 30, 2009 (unaudited)	786,168	3,106,332	\$ 7.90

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

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

3 The 99,500 options deducted from outstanding options include 59,500 options which were granted under the 1992 Stock Option Plan. Forfeited or expired options granted under the 1992 plan are no longer available for re-grant.

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

Options Outstanding			Options Exercisable		
Range of Exercise Prices	Number Outstanding	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 lease 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, % of Total Revenues	2008		2007	
Hospira	80	%	74	%
CJ Corp	8.8	%	10	%

## 10. Subsequent Events

Through March 17, 2009

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.

Subsequent events to June 30, 2009 (unaudited)

During July, 2009, BioTime raised \$4,000,000 of equity capital through the sale of 2,200,000 common shares and 2,200,000 stock purchase warrants to two private investors. The warrants entitle the investors to purchase additional common shares at an exercise price of \$2.00 per share. The warrants will expire on October 31, 2010 and may not be exercised after that date. The shares and warrants were sold to the investors in reliance upon an exemption from registration under Section 4.2 of the Securities Act of 1933, as amended (the "Securities Act"). BioTime has agreed to file a registration statement to register the warrants and shares issuable upon the exercise of the warrants for sale under the Securities Act, subject to certain limitations. BioTime has also agreed to file a registration statement to register the common shares, or to permit the investors to include the common shares in any future registration statements that BioTime may file, after May 15, 2010, subject to certain limitations.

In August 2009, BioTime received royalties in the amount of \$14,976 from CJ CheilJedang Corp. (“CJ”), and received royalties in the amount of \$208,350 from Hospira. These amounts are based on sales of Hextend made by Hospira and CJ in the second quarter of 2009, and will be reflected in BioTime’s condensed consolidated interim financial statements for the third quarter of 2009.

During August 2009, BioTime completed an exchange offer with the holders of the line of credit notes through which it issued 1,989,515 common shares and warrants to purchase 100,482 common shares in exchange for notes in the aggregate principal amount of \$3,349,259. BioTime also paid interest in the aggregate amount of \$294,351 on the notes tendered in the exchange offer.

In August 2009, the board of directors approved an increase in the authorized number of common shares to 75,000,000 shares, subject to approval by BioTime’s shareholders.

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No dealer, salesperson or other person has been authorized in connection with this offering to give any information or to make any representations other than those contained in this Prospectus. This Prospectus does not constitute an offer or a solicitation in any jurisdiction to any person to whom it is unlawful to make such an offer or solicitation. Neither the delivery of this Prospectus nor any sale made hereunder shall, under any circumstances, create an implication that there has been no change in the circumstances of BioTime or the facts herein set forth since the date hereof.

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2,694,282 Common Shares

7,847,867 Warrants

7,847,867 Common Shares Issuable Upon Exercise of Warrants

PROSPECTUS

September \_\_, 2009

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Indemnification of Directors and Officers.

Section 317 of the California Corporations Code permits indemnification of directors, officers, employees and other agents of corporations under certain conditions and subject to certain limitations. In addition, Section 204(a)(10) of the California Corporations Code permits a corporation to provide, in its articles of incorporation, that directors shall not have liability to the corporation or its shareholders for monetary damages for breach of fiduciary duty, subject to certain prescribed exceptions. Article Four of the Articles of Incorporation of the Registrant contains provisions for the indemnification of directors, officers, employees and other agents within the limitations permitted by Section 317 and for the limitation on the personal liability of directors permitted by Section 204(b)(10), subject to the exceptions required thereby.

Item 15. Recent Sales of Unregistered Securities.

During the past three calendar years we issued the following securities without registration under the Securities Act of 1933, as amended (the "Securities Act"), in reliance upon the exemption provided by Section 4(2) thereunder or such other exemption as may be indicated below.

2006

During January 2006 we issued 101,250 common shares, and during April 2006 we issued 33,750 common shares, to our financial advisor under the terms of our Financial Advisor Agreement.

During April 2006, we issued a total of 100,000 common shares to certain lenders who agreed to provide us credit under our Revolving Line of Credit Agreement.

2007

During January 2007 we issued 150,000 common shares, and during April 2007 we issued 110,000 common shares, to our financial advisor under the terms of our Financial Advisor Agreement.

During October 2007, we issued a total of 200,000 common shares to certain lenders who agreed to provide us credit under our Revolving Line of Credit Agreement.



2008

During March 2008, we issued 510,000 common shares to certain lenders who agreed to provide us credit or to extend the maturity date of their loans under our Revolving Line of Credit Agreement.

During March 2008, we entered into a consulting agreement under which we granted our consultant an option to purchase 250,000 common shares at exercise prices ranging from \$1.00 to \$2.00 per share. The option will not be exercisable except to the extent it has vested, and the option will vest in installments through June 2009 during the term of the consulting agreement.

During April 2008 we issued a total of 150,000 common shares to our financial advisor under the terms of our Financial Advisor Agreement.

During July 2008, we granted a non-profit international research, policy, and education organization a warrant to purchase 100,000 common shares at an exercise price per share equal to \$0.68. The warrant will expire in five years.

During August 2008 we sold 100,000 common shares to a private investor.

During October 2008, we issued 75,000 common shares to our financial advisor under the terms of our Financial Advisor Agreement.

During November 2008 we issued warrants to purchase 277,919 common shares at an exercise price of \$2.00 per share in connection with the arrangement of loans to Embryome Sciences by certain private investors. These warrants will expire on October 31, 2010.

During November 2008 we issued 1,112,013 common shares to some of our lenders who elected to acquire our common shares in exchange for their promissory notes under the terms of our Revolving Line of Credit Agreement. During November and December 2008, we also issued 70,410 common shares to those lenders who agreed to provide us additional credit or to extend the maturity date of their loans under our Revolving Line of Credit Agreement, and we issued warrants to purchase 118,750 common shares to a consultant for services in obtaining financing under the Revolving Line of Credit.

2009

During the period from January through March 2009, we issued 39,657 common shares to lenders who agreed to provide us additional credit under our Revolving Line of Credit Agreement, and we issued 42,329 common shares to a lender who elected to acquire our common shares in exchange for their Revolving Line of Credit Agreement promissory note.

During February 2009, we issued 32,259 common shares to a licensor as a license fee for certain stem cell lines that we acquired.

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During March 2009 we issued 33,019 common shares to a licensor of certain patents as part of a license fee.

During April 2009, we issued 91,526 common shares to those lenders who agreed to extend the maturity date of their loans under our Revolving Line of Credit Agreement, and we issued 473,131 common shares to those lenders who elected to acquire our common shares in exchange for their Revolving Line of Credit Agreement promissory notes.

During May 2009 we issued 12,798 common shares to lenders who agreed to provide us additional credit under our Revolving Line of Credit Agreement.

During May and July 2009, we sold 4,400,000 common shares and 4,400,000 stock purchase warrants to two private investors.

During July 2009, we issued a warrant to purchase 25,000 common shares to a third party in return for investor relations and publicity services.

During August 2009, we issued 1,989,515 common shares and 100,482 stock purchase warrants to certain lenders in exchange for \$3,349,259 in revolving line of credit promissory notes. The shares and warrants were issued without registration under the Securities Act in reliance upon the exemption provided by Section 3(a)(9).

Item 16. Exhibits and Financial Statement Schedules.

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+++
4.5	Warrant Agreement between BioTime, Inc., Broadwood Partners, L.P., and George Karfunkel~~
4.6	Form of Warrant~~
5.	Opinion of Counsel§
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 Seiberg.*
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.††††
- 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 ^^^
- 10.40 Fifth Amendment of Revolving Line of Credit Agreement, dated April 15, 2009.††††
- 10.41 Form of Amendment of Revolving Credit Note. ††††
- 10.42 Fifth Amendment of Security Agreement, dated April 15, 2009. ††††

- 10.43 Stock and Warrant Purchase Agreement between BioTime, Inc. and George Karfunkel ~~
- 10.44 Stock and Warrant Purchase Agreement between BioTime, Inc. and Broadwood Partners, L.P. ~~
- 10.45 Registration Rights Agreement between BioTime, Inc., Broadwood Partners, L.P. and George Karfunkel. ~~
- 10.46 Co-Exclusive OEM Supply Agreement, date July 7, 2009, between Embryome Sciences, Inc. and Millipore Corporation (Portions of this exhibit have been omitted pursuant to a request for confidential treatment) §§
- 21 List of Subsidiaries of BioTime, Inc.^^^
- 23.1 Consent of Rothstein, Kass & Company, P.C. §§§

† 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.

# 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.

^^^^ Incorporated by reference to BioTime's Form 10-K for the year ended December 31, 2008.

‡‡‡‡‡ Incorporated by reference to BioTime's Form 8-K filed April 17, 2009.

~~ Incorporated by reference to BioTime's Form 10-Q for the quarter ended March 31, 2009.

§ Previously filed.

§§ Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 2009.

§§§ Filed herewith.

Item 17. Undertakings.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers, and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by final adjudication of such issue.

The undersigned registrant hereby undertakes:

- (1) To file during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
  - (i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;
  - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate represent a fundamental change in the information set forth in the registration statement;
  - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.
- (2) That for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser each prospectus filed pursuant to Rule 424(b) shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.



(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Post-Effective Amendment to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Alameda, State of California on September 2, 2009.

BIOTIME, INC.

By Michael D. West  
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment to the Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
s/Michael D. West MICHAEL D. WEST	Chief Executive Officer and Director (Principal Executive Officer)	September 2, 2009
s/Harold Waitz HAROLD WAITZ	Director	September 2, 2009
s/Hal Sternberg HAL STERNBERG	Director	September 2, 2009
s/Judith Segall JUDITH SEGALL	Director	September 2, 2009
s/Steven Seinberg STEVEN SEINBERG	Chief Financial Officer (Principal Financial and Accounting Officer)	September 2, 2009
s/Valeta Gregg VALETA GREGG	Director	September 2, 2009
ROBERT N. BUTLER, MD	Director	September __, 2009
NEAL C. BRADSHER	Director	September __, 2009

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ARNOLD I. BURNS	Director	September __, 2009
ABRAHAM E. COHEN	Director	September __, 2009
ALFRED D. KINGSLEY	Director	September __, 2009
s/Pedro Lichtinger PEDRO LICHTINGER	Director	September 2, 2009

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EXHIBIT INDEX

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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. ^^
- 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^^^^
- 10.40 Fifth Amendment of Revolving Line of Credit Agreement, dated April 15, 2009.†††††
- 10.41 Form of Amendment of Revolving Credit Note. †††††
- 10.42 Fifth Amendment of Security Agreement, dated April 15, 2009. †††††

- 10.43 Stock and Warrant Purchase Agreement between BioTime, Inc. and George Karfunkel ~~
- 10.44 Stock and Warrant Purchase Agreement between BioTime, Inc. and Broadwood Partners, L.P. ~~
- 10.45 Registration Rights Agreement between BioTime, Inc., Broadwood Partners, L.P. and George Karfunkel. ~~
- 10.46 Co-Exclusive OEM Supply Agreement, date July 7, 2009, between Embryome Sciences, Inc. and Millipore Corporation (Portions of this exhibit have been omitted pursuant to a request for confidential treatment) §§
- 21 List of Subsidiaries of BioTime, Inc.^^^
- 23.1 Consent of Rothstein, Kass & Company, P.C. §§§

† 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.

# 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.

^^^^ Incorporated by reference to BioTime's Form 10-K for the year ended December 31, 2008.

‡‡‡‡‡ Incorporated by reference to BioTime's Form 8-K filed April 17, 2009.

~~ Incorporated by reference to BioTime's Form 10-Q for the quarter ended March 31, 2009.

§ Previously filed.

§§ Incorporated by reference to BioTime's Form 10-Q for the quarter ended June 30, 2009.

§§§ Filed herewith.