

Executive Summary

BioTime, Inc.

Company Background:

BioTime, Inc. (BTIM) is a biotechnology company engaged in two areas of biomedical research and product development:

- Stem cell technology and products for use in **regenerative medicine**. These products and technologies are being developed and marketed by our wholly owned subsidiary **Embryome Sciences, Inc.**
- **Blood plasma volume expanders** and related technology for use in surgery, emergency trauma treatment and other applications. Our lead product is **Hextend[®]** which is being marketed by Hospira, Inc. and CJ CheilJedang Corp. under exclusive licenses from us.

The Potential of Regenerative Medicine

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. The great scientific and public interest in regenerative medicine lies in the potential of hES cells to transform into any cell type of the human body. hES cells therefore show considerable potential as a source of new therapies for a host of currently-incurable diseases such as: diabetes, stroke, Alzheimer’s and Parkinson’s disease, heart failure, arthritis, muscular dystrophy, spinal cord injury, macular degeneration, hearing loss, kidney and liver failure, as well as many other disorders that may be treated by replacing diseased or damaged organ tissues. In response to the unusual potential of the field, the State of California has allocated \$3 billion over the next 10 years to fund basic research, and President Obama has lifted previous restrictions for federal funding of stem cell research.

Led by Dr. Michael West, considered by many to be a founding father of the stem cell industry, BioTime has assembled an array of products and associated intellectual property that give it the potential to be a leader in this exciting new field of medicine.

We are implementing a **near-term revenues strategy** in the regenerative medicine field by seeking to develop and market advanced hES products and technology that can be used by researchers at universities and biopharmaceutical companies. These research-only products generally can be marketed **without regulatory (FDA) approval**, and are therefore relatively near-term business opportunities when compared to human therapeutic products. We may also initiate development programs for human therapeutic applications if sufficient capital becomes available to us or through joint efforts with industry partners.

BioTime is leveraging its product development strategy on two key technology platforms:

- An advanced ***iPS technology*** allowing the transformation of human cells of the body back to a primordial stem cell state equivalent to embryonic stem cells. Using this technology with patient specific stem cells, rather than stem cells derived from embryos donated by unrelated people, may reduce the incidence of rejection of tissue grafts.
- ***ACTCellerate™*** technology that permits the generation of scalable and highly purified cells of the human body.

IPS Technology

In July, 2008, BioTime announced the license of a portfolio of patents and patent applications relating to ***induced pluripotent stem cells*** (iPS) that may enable the regeneration of human cells ***without the use of human embryos or cloned viruses***. Recent scientific publications have reported the transformation of cells of the human body, such as skin cells, into an embryonic state that gives the cells the potential to transform into any kind of human body cell. Because this new technology does not involve human embryos or egg cells, and classical cloning techniques are not employed, iPS technology is considered an important new avenue in stem cell research. iPS is less controversial than embryonic stem cell technology that relies on cells derived from human embryos, and iPS may be practical for the development of therapeutic cell lines on a commercial scale.

ACTCellerate™ Technology:

The power of human embryonic stem cells to become all of the thousands of cell types of the human body is currently challenging the ability of the biotechnology industry to manufacture highly purified and identified cell types as required for the development of clinical-grade therapeutics. BioTime's ***ACTCellerate™*** technology may be a solution to this challenge by providing a means of delivering large quantities of highly purified cell types.

Our First Stem Cell Products Are Already On the Market

The mission of BioTime's wholly owned subsidiary Embryome Sciences is to market stem cell products to universities and biomedical companies for research purposes. These products are now being marketed online at <http://www.embryome.com>. A database providing a detailed map of the "embryome", aiding researchers in navigating the complexities of the many hundreds of

cell types coming from embryonic stem cells, is also being developed at the Embryome.com website.

Our initial products include:

- **ESpan™** cell growth media, designed for the growth of human embryonic progenitor cells
- Approximately 100 progenitor cell types made using the **ACTCellerate™** technology
- An array of human embryonic **stem cell lines carrying inherited genetic diseases** such as cystic fibrosis and muscular dystrophy

Embryome Sciences also plans to bring to market

- **ESpy™** cell lines, which will be derivatives of hES cells that send beacons of light in response to the activation of particular genes
- **New growth and differentiation factors** that will permit researchers to manufacture specific cell types from embryonic stem cells
- **Purification tools** useful to researchers in quality control of products for regenerative medicine.

As new products are developed, they will become available for purchase at Embryome.com. These cells and related products can be immediately sold into what is estimated to be a \$20 billion research market and \$80 billion over the next 10 years (Visiongain, 2009). We are also exploring potential opportunities to develop therapeutic applications of our stem cell technologies through collaborations with industry partners.

Hextend® and Other Blood Plasma Expander Products

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.

Hextend 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.

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.

Hextend is being distributed in the United States by **Hospira, Inc.** and in South Korea by **CJ CheilJedang Corp.** under exclusive licenses from BioTime. **Summit Pharmaceuticals International Corporation** has a license to develop Hextend and a companion product **PentaLyte®** in Japan, the People's Republic of China, and Taiwan. A **Phase III clinical trial** is currently underway in Japan.

Intellectual Property and Facilities:

BioTime owns or has license to over 200 patents and patent applications relating to stem cell technology allowing us to commercialize the technology described in this summary. This intellectual property includes BioTime's own technology, as well as patents and patent applications licensed from the Wisconsin Alumni Research Foundation, International Stem Cell Corporation, affiliates of Kirin Pharma Company, Limited, and Advanced Cell Technology.

BioTime has approximately 11,000 square feet of GMP-capable cell and media manufacturing and research laboratories in Alameda, California.

Additional Information:

This summary is being provided for informational purposes only, and not for investment purposes. This summary does not contain complete information about BioTime, Inc. and Embryome Sciences, Inc., and does not constitute an offer to sell or a solicitation of an offer to buy any security. Additional information about BioTime and Embryome Sciences can be found in BioTime's filings with the Securities and Exchange Commission at www.sec.gov or on BioTime's website at www.biotimeinc.com.