

# QUARTERLY UPDATE

## Business Update and Recent Financial Results

### Snapshot

September 27, 2006

Advanced Cell Technology, Inc. (“the Company” or “Advanced Cell”) is a biotechnology company applying novel human embryonic stem (ES) cell technologies to the emerging field of regenerative medicine. Regenerative medicine refers to cell therapy—treatments that are founded on the concept of producing new cells to replace malfunctioning or damaged cells as a vehicle to treat disease and injury. Advanced Cell’s technologies are currently in the developmental and preclinical research stages, with the Company’s Retinal Pigment Epithelium (RPE) program expected to move into a human clinical trial following its initial Investigational New Drug (IND) application in late 2007. The Company aims to commercialize its technologies for the treatment of chronic degenerative diseases and regenerative repair of acute conditions such as trauma, infarction, and burns. Advanced Cell’s reprogramming technologies could produce cells that maximize the potential for effective use as transplants for replacing diseased or destroyed cells in human patients. This technology is intended to avoid reliance on more limited approaches that use therapies based upon adult stem cells or cell lines that may not be histocompatible with the patient. Advanced Cell’s research focuses on three core areas: Cellular Reprogramming, a Reduced Complexity Library (RCL), and Stem Cell Differentiation. The Company has focused on three product programs to develop therapeutics for indications in the eye, skin, and blood, and has successfully generated human ES cells using a unique method that does not harm the embryos. Advanced Cell has headquarters and a 10,000-square foot, Good Manufacturing Practices (GMP)-capable production facility in Alameda, California, as well as a GMP facility in Worcester, Massachusetts.



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### Recent Financial Data

Ticker (Exchange)	ACTC.OB (OTC.BB)
Recent Price (09/27/06)	\$0.74
52-Week Range	\$0.26-2.95
Shares Outstanding (as of 6/30/06)	24.5 million
Market Capitalization	\$18.1 million
Avg. 3-month volume	1,162,770
Beneficially-Owned Shares	22.1%
EPS (Quarter ended 06/30/06)	\$0.17
Employees (incl. full-time equiv. & consultants)	50



### Key Points

- Advanced Cell has successfully created a novel technology utilizing a technique that is similar to preimplantation genetic diagnosis (PGD), which generates human ES cells using an approach that does not harm embryos.
- On August 24, 2006, Advanced Cell published an article in the journal *Nature* explaining its progress and creation of 19 ES cell-like outgrowths and two stable ES cell lines, which are able to generate cells from all germ layers of the body—including nerve cells, blood cells, and retinal cells. Following the publication of the article, the Company was covered in over 200 periodicals and journals including *Newsweek*, the *New York Times*, the *Wall Street Journal*, the *Economist*, and the *Los Angeles Times*.
- On September 12, 2006, Advanced Cell and the WiCell Research Institute agreed, in principle, to collaborate to jointly distribute to U.S. scientists a range of new cell lines for medical research produced using Advanced Cell’s novel technique. The agreement is contingent upon the U.S. government recognizing and funding research in connection with the utilization of these lines.
- On September 21, 2006, Advanced Cell announced that its scientists and their collaborators rescued visual function in rats through implantation of RPE cells derived from human ES cells. The study’s results were reported in a paper entitled “Human Embryonic Stem Cell-Derived Cells Rescue Visual Function in Dystrophic RCS Rats,” published online ahead of print in the Fall 2006 issue of the journal *Cloning and Stem Cells*.
- On June 30, 2006, cash and cash equivalents were approximately \$5.3 million versus approximately \$13.9 million on December 31, 2005 and \$3.2 million on June 30, 2005. On September 6, 2006, the Company closed two separate financing transactions receiving approximately \$13.5 million.

## Business Update, Recent Events, and Financial Results

### Key News Highlights

- **Advanced Cell achieved a significant milestone in stem cell research.** The Company successfully generated human ES cells using an approach that does not harm embryos. (September 23, 2006 press release).
- **The Company published a detailed article explaining its technique in the journal *Nature*.** Advanced Cell was also covered in approximately 200 newspapers and magazines describing its novel technology. These circulations include, but are not limited to, the *New York Times* (September 1, 2006), *Newsweek* (August 29, 2006), *the Washington Post* (August 28, 2006), and *the Los Angeles Times* (August 24, 2006). (August 23, 2006 press release).
- **Advanced Cell testified before the U.S. Senate regarding its new technology.** Dr. Robert Lanza, vice president of research and scientific development at Advanced Cell, and Robert M. Green, professor at Dartmouth College and director of Dartmouth's Ethics Institute, as well as chairman of Advanced Cell's Ethics Advisory Board, testified before the Senate Labor, Health & Human Services, and Education Appropriations Subcommittee as to results of the Company's new technology on September 6, 2006. Dr. Lanza's testimony focused on support for wider availability of human ES cells for basic medical research. Dr. Lanza is the principle author of a paper published on August 24, 2006 in the peer-reviewed journal *Nature*, which described a technique for developing human ES cells with a single-cell biopsy technique called preimplantation genetic diagnosis (PGD), which is not harmful to embryos. (September 6, 2006 press release).
- **The Company released reports of its ability to rescue visual function in rats through implantation of retinal pigment epithelial cells (RPE) derived from human ES cells.** The study results were reported in a paper entitled "Human Embryonic Stem Cell-Derived Cells Rescue Visual Function in Dystrophic RCS Rats," published online ahead of print in the Fall 2006 issue of the journal *Cloning and Stem Cells*. (September 21, 2006 press release).
- **Advanced Cell announced that it closed two financings generating approximately \$13.5 million in cash.** Subsequent to the quarter, Advanced Cell announced that it is to receive approximately \$13.5 million from two separate financing transactions. The Company said it expects to raise \$8.5 million as existing investors exercise their option to purchase additional Debentures and Warrants. In addition, Advanced Cell stated that it expects to receive \$5 million from the exercise of repriced Warrants.

### Press Releases/News Announcements

During the quarter and to date, Advanced Cell achieved a series of important milestones, the most significant of which are described in brief above, and all of which are described below and more fully detailed in the Company's press releases found at [www.advancedcell.com](http://www.advancedcell.com).

- On September 21, 2006, the Company announced its ability to rescue visual function in rats through implantation of RPE cells derived from human ES cells. The study results were reported in a paper entitled "Human Embryonic Stem Cell-Derived Cells Rescue Visual Function in Dystrophic RCS Rats," published online ahead of print in the Fall 2006 issue of the journal *Cloning and Stem Cells*. The rats were injected with human ES-RPE cells into the subretinal space of the eye at 21 days after their birth—an age at which photoreceptor degeneration has not yet occurred. As controls, some rats received injections of cell culture medium alone, or were not injected. Tests for visual function were performed at 60 and 90 days after birth—times at which loss of photoreceptor cell has produced characteristic vision deficits. These results demonstrated that animals receiving the human ES-RPE cells performed significantly better than medium-only treated (50% improvement), or untreated (100% improvement) controls in visual performance, with visual acuity achieving that of 70% of normal, non-RCS rats. Advanced Cell showed that these cells have the capacity to rescue visual function in

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animals that otherwise would have gone blind. Importantly, the cells did not appear to cause any unwanted pathological responses in the animals following transplantation.

- On September 12, 2006, Advanced Cell and the WiCell Research Institute (a subsidiary of the Wisconsin Alumni Research Foundation) announced an agreement, in principle, to collaborate to jointly distribute to U.S. scientists a range of new cell lines. These stem cell lines would be produced using the Company's recently announced technique in the peer-reviewed journal *Nature*, provided the U.S. federal government recognizes these new lines and funds research utilizing them.
- On September 8, 2006 Advanced Cell announced that it closed two financings generating approximately \$13.5 million in cash. The proceeds may enable continued development of the Company's proprietary technology platforms, including the recently announced technique to generate human ES cells while preserving the donor embryo's potential for continued development.
- On September 6, 2006, the Company announced that Dr. Robert Lanza, M.D., Advanced Cell's vice president of Medical and Stem Cell Development, testified as to the results of the Company's new technology before the Senate Labor, Health & Human Services and Education Appropriations Subcommittee. Dr. Lanza's testimony focused on support for wider availability of human ES cells for basic medical research. Dr. Lanza is the principle author of a paper published on August 24, 2006 in the peer-reviewed journal *Nature*, which described a technique for developing human ES cells with a single-cell biopsy technique called preimplantation genetic diagnosis (PGD), which is not harmful to embryos.
- On September 6, 2006, Advanced Cell also announced that Dr. Ronald Green, Ph.D., director of Dartmouth College's Ethics Institute and chairman of the Advanced Cell's Ethics Advisory Board testified before the Senate Labor, Health & Human Services and Education Appropriations Subcommittee. Dr. Green's testimony focused on the benefits of *in vitro* fertilization (IVF) and PGD, and how the method developed by Advanced Cell for generating human ES cells maintains the developmental potential of the embryo. Additionally, Dr. Green discussed the important roles of both Congress and the President in potentially allowing federal funding for stem cell lines derived using Advanced Cell's method.
- On September 6, 2006, the Company further announced that it had settled a patent dispute involving certain nuclear transfer cloning patents and patent applications owned or licensed by the University of Massachusetts (UMass), Roslin Institute, Geron Corporation (GERN-NASDAQ), Start Licensing, Inc., and Advanced Cell. The dispute involved appeals to the U.S. District Court by Advanced Cell and UMass that sought to overturn rulings by the U.S. Patent and Trademark Office against Advanced Cell and UMass in patent interference numbers 104,746 and 105,192. Under the terms of the settlement agreement, Start Licensing agreed to pay Advanced Cell an initial payment of \$500,000 and milestone payments of up to \$750,000. Start, Geron, Exeter, and Roslin each further agreed not to sue Advanced Cell or UMass under the involved Roslin patent applications. In exchange, Advanced Cell and UMass dismissed their appeals with prejudice, transferred control of related UMass patents and patent applications to Start Licensing in the non-human animal field, and Advanced Cell paid certain legal fees. Under the terms of the settlement agreement, Advanced Cell retained its rights under the UMass patents in the human field.
- On August 25, 2006, Advanced Cell announced two separate financing transactions. The Company received notices on August 23, 2006 from substantially all of the holders of the Company's currently outstanding amortizing convertible Debentures and Common Stock purchase Warrants issued September 15, 2005, exercising their existing investment option to purchase additional Debentures and Warrants. Upon closing, the additional investment option could generate approximately \$8.5 million in new capital. The Company expects the closing to occur on or about September 7, 2007. In a separate event, the Company agreed to reduce the exercise price of its outstanding \$2.53 Warrants to \$0.95 per share, provided that a minimum of 85% of the holders of the \$2.53 Warrants exercise the Warrants as repriced. In connection with the repricing, the Company may issue a replacement Warrant to each Warrant holder exercising the repriced Warrant on the same terms and conditions as the existing Warrant at a price of \$1.60. The Company anticipates receiving funds from the exercise of the repriced Warrants in the amount of approximately \$5.0 million. In light of the exercise of the additional investment option and the Warrant transaction, the Company has terminated a private

placement financing announced August 22, 2006, as the need for that capital has been satisfied. As a separate event that did not result in the raising of additional funds, the Company agreed to reduce the exercise price of its \$1.27 Warrants from its Series A financing to \$0.95 per share. The shares underlying the \$1.27 Warrants are not subject to a current registration statement.

- On August 24, 2006, the Company published a detailed article explaining its technique in the journal *Nature*. This news was picked up by approximately 200 newspapers and magazines including, but not limited to, the *New York Times* (September 1, 2006), *Newsweek* (August 29, 2006), the *Washington Post* (August 28, 2006), and the *Los Angeles Times* (August 24, 2006).
- On August 23, 2006, Advanced Cell reported that Company scientists successfully generated human ES cells using a novel approach that does not harm embryos. The technique is reported in an article appearing in the journal *Nature*. This procedure uses a technique similar to PGD—a well-established technique that has been used by IVF clinicians for over a decade. In PGD, a single cell is removed from an eight cell stage embryo—known as a blastomere—for genetic testing. By growing this removed cell overnight, the resulting cells could be used for both PGD and the generation of ES cells without affecting the clinical outcome of the procedure or the chances of a couple having a child. In Advanced Cell’s control experiments, nineteen ES cell-like outgrowths and two stable ES cell lines were derived from 91 blastomeres. These stem cell lines have been growing for more than eight months, and are genetically normal and able to generate cells from all the germ layers of the body, including nerve cells, blood cells, and retinal cells. According to an August 24, 2006 issue of the *Los Angeles Times*, this type of cell removal has occurred since 1990 in screening for genetic diseases, and doctors estimate that approximately 2,500 children living today have had a cell or two removed as an embryo.
- On August 22, 2006, Advanced Cell announced plans to privately offer up to \$11.3 million of senior secured Convertible Debentures and Warrants. In light of the financing announced on August 25, 2006, the financing was cancelled.
- On July 11, 2006, Advanced Cell’s Dr. Robert Lanza, M.D., vice president of research and scientific development, and his colleagues received favorable reviews for *Essentials of Stem Cell Biology*, the recently released landmark volume on embryonic and adult stem cell research and its real-world applications. Dr. Lanza served as editor-in-chief and co-edited the volume with several other leading experts in the area of stem cell research and regenerative medicine.
- On June 6, 2006, Advanced Cell announced that it had participated at the European Stem Cells & Regenerative Medicine Congress 2006, June 5-7, at Jumeirah Carlton Tower, London, UK. Dr. Michael D. West, Ph.D., chairman, president, and chief scientific officer, took part in a panel discussion titled “Realizing Therapeutic Potential” on Wednesday, June 7, 2006. Dr. West discussed strategies for the accelerated development of therapeutics from human ES cells, introduced the Company’s ACTCellerate technology platform, and presented data on the first new differentiated cells derived using the technology, designated ACTC60. Dr. West’s presentation is available for viewing at the Company’s web site [www.advancedcell.com/conference-presentations](http://www.advancedcell.com/conference-presentations).
- On May 15, 2006, Advanced Cell announced timetables for filing Investigational New Drug (IND) applications for each of its key therapeutic programs, which include its Retinal Pigment Epithelium (RPE) program, Hemangioblast program, and Dermal program. Based on the Company’s preclinical studies to date, the Company expects to file its initial IND application for its RPE Program for the treatment of macular degeneration in the second half of 2007. Additionally, the Company plans to file IND applications in 2008 for both its Hemangioblast and Dermal programs.
- On May, 12, 2006, Advanced Cell announced that it had entered into exclusive and non-exclusive license agreements of key intellectual property with Kirin Brewery Company, Ltd. (KNBWY.PK-OTC) with offices located in Tokyo, Japan, the U.S., and certain other Kirin subsidiaries. In addition, the Company sold to Kirin all of its interests in Hematech, LLC, an indirect subsidiary of Kirin.
- On May 8, 2006, Advanced Cell announced that it had formed an Institutional Review Board (IRB) and plans to initiate scientific work in the area of somatic cell nuclear transfer (SCNT).

- On April 27, 2006, Advanced Cell announced that it had entered into a collaboration agreement with Xgene Corporation of Sausalito, California. In the collaboration, Advanced Cell is to provide the human ES cell-derived skin cells, and Xgene is to provide its technology for reconstituting skin from cultured cells, to achieve the mutually beneficial development of advanced *in vitro* human skin models. The goal of the collaboration is to test the functionality of embryonic skin cells in regenerating skin for numerous applications in medicine.
- On April, 18, 2006, Advanced Cell announced that it is in the final phase of validating its first Good Manufacturing Practices (GMP) laboratory in its facility in Worcester, Massachusetts.
- On April 3, 2006, Advanced Cell announced that it had exclusively licensed a key intellectual property portfolio in regard to somatic cell reprogramming from TranXenoGen, Inc., Shrewsbury, Massachusetts.
- On March 6, 2006, Advanced Cell announced that it had participated in the 1<sup>st</sup> International Conference on Cell Therapy and Regenerative Medicine being held March 6-7, 2006 in Madrid, Spain. Dr. Robert Lanza, M.D., vice president of medical and scientific development, presented on Monday, March 6 at 12:30 p.m. He spoke on "Cloning and Stem Cell Strategies in Transplantation."
- On February 28, 2006, Advanced Cell announced the official opening of its new 15,000-square foot, state-of-the-art facility in Alameda, California. This facility now serves as the Company's headquarters.

### **Second Quarter Financial Results**

Advanced Cell reported second quarter financial results on August 11, 2006. Revenues for the quarter ended June 30, 2006 were approximately \$121,000, essentially unchanged from the year-ago quarter. These amounts were primarily from collected license and royalty fees amortized over the period of the license. Net profit for the second quarter was approximately \$9.3 million or \$0.38 basic earnings per share versus a net loss of \$2.5 million or (\$0.11) basic loss per share for the year-ago period.

Research and development (R&D) expenses for the second quarter of 2006 were approximately \$2.6 million versus \$660,000 for the second quarter of 2005. These expenses resulted from costs associated with basic and preclinical research in the field of human stem cell therapies and regenerative medicine, as well as the non-clinical support activities, such as quality control and regulatory processes. R&D personnel is the most significant cost in this category, and increased staffing and spending for scientific research is the principal cause of the second quarter R&D increase. Due to reduced general and administrative infrastructure costs and legal fees, general and administrative expenses for the second quarter were approximately \$1.9 million versus approximately \$2.0 million for the same period of 2005.

Cash and cash equivalents on June 30, 2006 were approximately \$5.3 million versus approximately \$13.9 million on December 31, 2005 and \$3.2 million on June 30, 2005. Subsequent to the quarter, on August 25, 2006 Advanced Cell announced that it is to receive approximately \$13.5 million from two separate financing transactions. The Company said it expects to raise \$8.5 million as existing investors exercise their option to purchase additional Debentures and Warrants. In addition, Advanced Cell stated that it expects to receive \$5 million from the exercise of repriced Warrants. Details of this fundraising are discussed in the August 25, 2006 Recent Events. The Company further stated that it has terminated its plan to privately offer \$11.3 million of senior secured Convertible Debentures and Warrants, in light of the other financing it has secured.

### **Year-to-Date Financial Results**

Year-to-date, Advanced Cell's revenues for the period ending June 30, 2006 were approximately \$204,000 versus approximately \$229,000 for the same period of 2005. The reduction resulted from decreased revenue levels in licensees' operations. Net profit for the first six months of 2006 was approximately \$14.1 million or \$0.57 basic earnings per share versus a net loss of \$3.6 million or (\$0.16) basic loss per share for the year-ago period. Changes to the fair value of derivatives resulted in the increase of net profit during the 2006 period. The increase was partially offset by the increases in year-to-date R&D and general and administrative expenses.

R&D expenses for the year-to-date were approximately \$4.4 million versus approximately \$930,000 for the first six months of 2005. Year-to-date general and administrative expenses were approximately \$4.5 million versus approximately \$3.2 million for the same period of 2005. This increase results from additional salary costs associated with increased key personnel as well as approximately \$600,000 incurred for investor relations-related expenses during 2006.

## Company Background

Advanced Cell Technology, Inc. (“Advanced Cell” or “the Company”) is a biotechnology company applying human embryonic stem (ES) cell technologies to the field of regenerative medicine. Regenerative medicine refers to cell therapy—treatments that are founded on the concept of producing new cells to replace malfunctioning or damaged cells as a vehicle to treat disease and injury. Advanced Cell is designing technologies as a portal for applying the area of genomics to the area of cell biology, with the intent on developing many potential innovative therapies. Currently, all of Advanced Cell’s technologies are in the preclinical stage of research, though the Company’s Retinal Pigment Epithelium (RPE) program is expected to move into a human clinical trial following its initial Investigational New Drug (IND) application in late 2007. The Company aims to commercialize its technologies into products for use in treating a wide array of chronic degenerative diseases and in regenerative repair of acute injuries and conditions such as trauma, infarction, and burns. To date, Advanced Cell has announced its focus on three product programs to develop therapeutics for indications in the eye, skin, and blood.

The ability to produce ES cells that are immunologically compatible with the patient is a key advantage of Advanced Cell’s technology platform. The Company believes that this platform could enable the transformation of a patient’s cells into an embryonic state where those cells can be differentiated into specific therapeutically-relevant cell types that are genetically identical to the patient. The Company also believes that its technology may enable the production of stem cell lines from sources external to the patient, which have a sufficiently high level of histocompatibility to be useful in making cell therapies readily accessible to a large segment of the patient population, without the need for exact genetic matching of tissues. Advanced Cell believes that its proprietary technology for solving immune rejection is fundamental for the advancement of the field of regenerative medicine.

### Novel Technology for Human Embryonic Stem Cell Research

On August 23, 2006, Advanced Cell made public its achievement of a significant milestone in stem cell research. The Company announced that it had successfully generated human ES cells using an approach that does not harm embryos. Typically, ES cells are harvested from older embryos containing approximately 150 cells, and this harvesting subsequently destroys the embryos. The Company’s method uses preimplantation genetic diagnosis (PGD) techniques to remove a single cell from a three-day old embryo only containing eight to ten cells. According to an August 24, 2006 issue of *The LA Times*, this type of cell removal has been occurring since 1990 in screening for genetic diseases, and doctors estimate that approximately 2,500 children living today had a cell or two removed as an embryo.

Advanced Cell’s technology is based on allowing the newly removed cell to divide once, using one part for genetic testing and the other to make stem cells. In experiments with 16 frozen embryos donated by fertility clinic patients, Advanced Cell scientists were able to create 19 ES cell-like outgrowths and two stable human ES cell lines from 91 blastomeres. The human ES cell lines were genetically normal and retained their abilities to form all of the cells in the human body including nerve cells, blood cells, and even retinal cells. This unique approach bypasses the traditional stem cell creation methods that necessitated destroying an embryo’s inner cell mass. This approach also has the potential to address the ethical concerns of stem cell research and unlock federal funding avenues.

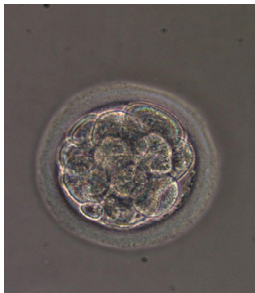
For more information on Advanced Cell’s accomplishments in this area, please reference the Company’s website or the “Human Embryonic Stem Cell Lines Derived from Single Blastomeres” article in the August 24, 2006 edition of *Nature*.

On September 21, 2006, the Company announced that its scientists and their collaborators rescued visual function in rats through implantation of RPE derived from human ES cells. The study results were reported in a paper entitled “Human Embryonic Stem Cell-Derived Cells Rescue Visual Function in Dystrophic RCS Rats” published online ahead of print in the Fall 2006 issue of the journal *Cloning and Stem Cells*. Advanced Cell showed that these cells have the capacity to rescue visual function in animals that otherwise would have gone blind. Importantly, the cells did not appear to cause any unwanted pathological responses in the animals following transplantation.

## Foundation for Technology

Regenerative medicine is an emerging field that was established in 1995-1996. The first isolation of the human ES cell occurred in 1998 at the University of Wisconsin. The term “regenerative medicine” refers to a field that approaches the repair or replacement of tissues and organs by incorporating the use of cells, genes, or other biological building blocks along with bioengineered materials and technologies. Advanced Cell is focused on utilizing advances in ES cell and nuclear transfer technology to replace malfunctioning or damaged cells as a way to treat disease and injury. Many serious and untreatable diseases arise from the loss or malfunction of specific types of cells in the body, including Alzheimer’s disease, Parkinson’s disease, macular degeneration, Type 2 diabetes, heart failure, osteoarthritis, and various immune system diseases. This is also true for medical conditions resulting from damage to cells due to acute injuries, such as trauma, infarction, and burns. The enthusiasm surrounding the field of regenerative medicine comes from the possibilities that arise from potential therapies to treat previously untreatable diseases.

Figure 1  
Advanced Cell Technology, Inc.  
HUMAN CLONED MORULA



Source: Advanced Cell Technology, Inc.

Ethical concerns and debates raised when hearing the term “cloning” make it important to distinguish *therapeutic* cloning, the target of Advanced Cell’s technology, versus *reproductive* cloning, which requires the transfer of an embryo into a surrogate mother and then allows the embryo to develop fully into the species which had been cloned.

In 1998, Advanced Cell published a paper showing that therapeutic cloning with somatic cell nuclear transfer (SCNT) worked in the bovine model. Advanced Cell has also worked on the reproductive cloning of endangered species around the world, including a Gaur and a Banteg. One of the cloned Bantegs survived and has been integrated with the herd at the San Diego Zoo, introducing new genes into that population.

In 2003, Advanced Cell announced the cloning of a human embryo to the 16-cell morula stage (the stage from which stem cells have been obtained in animal studies), as shown in Figure 1. The Company was also successful in using parthenogenesis in primates (the process by which an unfertilized egg is encouraged to split into “parthenotes” or embryo-like products from which stem cells may be extracted) to coax eggs to divide into blastocysts, (the stage of embryonic development that is optimal for obtaining stem cells). Tissue from parthenogenesis would be easier to match with patients and less likely to be rejected because the parthenote would be homozygous in the histocompatibility antigen (HLA) genes, which significantly reduces the complexity of finding a match (i.e. matching “aa” instead of “ab”).

## Industry’s Recent Turn of Events

### South Korea

The stem cell arena, particularly human ES cell research, has been under scrutiny as of late due to the South Korean researcher Hwang Woo Suk’s recently revealed scandal—namely that the scientist faked 11 lines of ES cells he claimed to have created through cloning in May 2004. While this event has no bearing on the legitimacy of the science for other stem cell researchers in the U.S. and throughout the world, it may have a chilling effect on the receptivity of this technology. In addition, subsequent to the announcement of Suk’s alleged breakthrough, many companies’ sources of capital have dried up for human ES research. This presents a challenge in finding funding for human ES research.

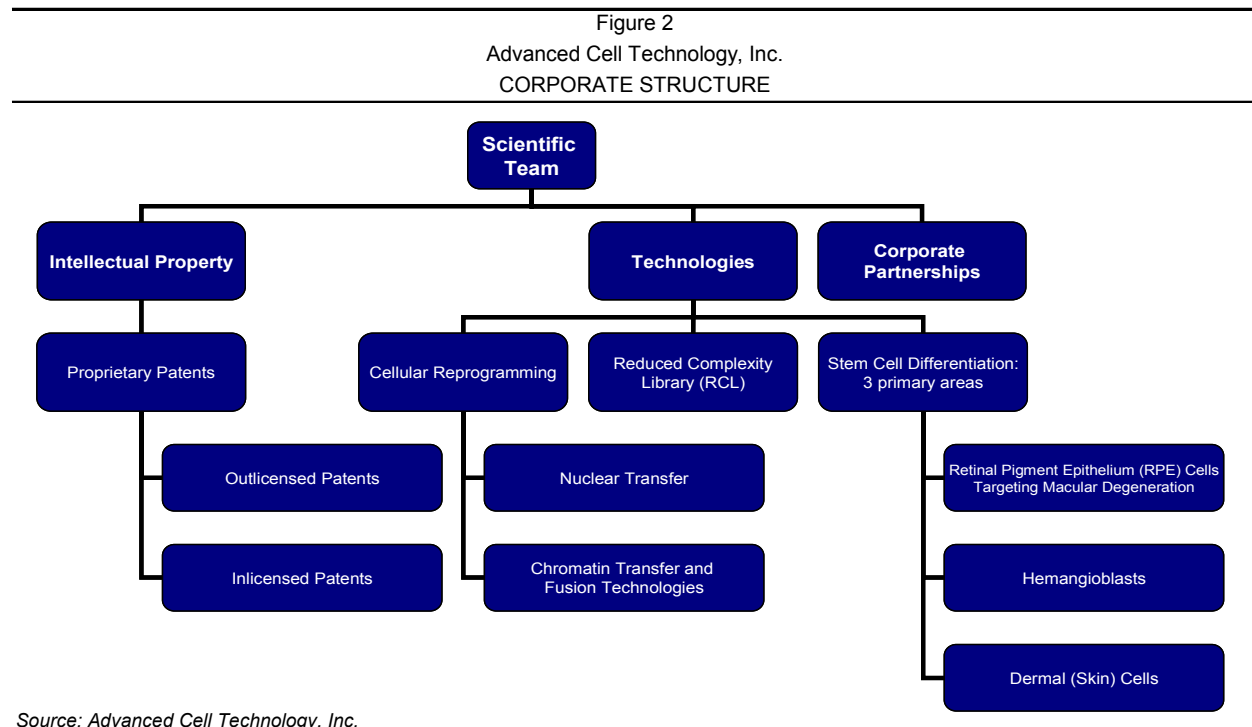
### Proposition 71

Currently, there are a limited number of federal lines of human ES cells that qualify for government-subsidized research funding. California’s Proposition 71, a measure that was recently passed allowing \$3 billion in funding for stem cell research in the state of California, paves the way for states to pass their own funding laws, but is currently tied up by lawsuits challenging its constitutionality. Governor

Schwarzenegger authorized \$150 million in loans to the California Institute of Regenerative Medicine (the entity responsible for distributing the \$3 billion authorized by Proposition 71 to the state's universities and research institutions), quadrupling the amount of money available to begin research on stem cells. However, the bonds cannot be sold to the general public while the litigation for Proposition 71 is still pending. In the meantime, the agency's bond-financing board approved \$200 million to be sold privately. Advanced Cell's research is focused within human ES cell therapeutic cloning. The Company hopes to develop a line of customized human ES cells that can be the foundation of therapies for many diseases.

## Corporate Structure

Advanced Cell's corporate structure is divided into the following branches, as illustrated in Figure 2, and outlined below. Extensive details on each of these areas are provided within the Core Story section of Crystal Research Associates' Executive Informational Overview<sup>®</sup> (EIO<sup>®</sup>) dated February 22, 2006.



- **Intellectual Property.** Advanced Cell has filed numerous proprietary patents in the area of regenerative medicine, and has incensed and/or outlicensed further technologies as needed.
- **Technologies.** This branch is divided into three core areas: (1) Cellular Reprogramming, (2) a Reduced Complexity Library (RCL), and (3) Stem Cell Differentiation. Each of these areas provides the Company with a platform for which to produce novel technology with the intent of developing new treatments.
  - (1) **Cellular Reprogramming.** This technology involves developing therapies based on the use of genetically identical stem cells that have been cultivated into specific therapeutic lines derived for the exact needs of the patient. Cellular Reprogramming, also known as therapeutic cloning, takes the deoxyribonucleic acid (DNA) from the genetic host and implants it into an ovum to create ES cell lines that are genetically compatible to the recipient (or donor of that DNA). This ES cell line is then grown out and differentiated into the proper body cell line in order to heal the affected area.
  - (2) **A Reduced Complexity Library (RCL).** This technology could allow Advanced Cell to develop readily available cell therapy products for patients with acute medical needs (such as heart attack victims). The Company believes that this technology may result in a bank of a few hundred cell

lines, which could be compatible with the majority of the population, without requiring the need for significant immunosuppressive drugs.

(3) *Stem Cell Differentiation*. This technology differentiates ES cells into various types of tissue or cell lines needed for therapeutic purposes. Advanced Cell is currently working on generating ES cell lines to target three specific therapeutic areas: (1) retinal pigment epithelium (RPE) cells, (2) hemangioblasts, and (3) dermal (skin) cells.

- *Corporate Partnerships*. The Company is focused on cultivating relationships with collaborative partners to launch various product lines intended to be developed as a result of its novel technology.

## History, Headquarters, and Employees

Figure 3  
Advanced Cell Technology, Inc.  
LABORATORY SPACE



Source: *Advanced Cell Technology, Inc.*

Advanced Cell Technology, Inc. is a Delaware corporation that began operations in 1998 in Worcester, Massachusetts. The Worcester facility has Good Manufacturing Practices (GMP) manufacturing facilities for the production of stem cell lines and differentiated cells for preclinical and clinical testing. The Company is headquartered in Alameda, California, where it also has a GMP-capable facility including approximately 10,000-square feet of manufacturing capacity. Advanced Cell intends to produce product for preclinical and clinical testing from both of these facilities. Advanced Cell is also working toward establishing corporate partnerships with pharmaceutical and biotechnology companies. The Company employs approximately 50 individuals (full time and full-time equivalents, including consultants), with the majority of these personnel focused on research and development activities. Figure 3 illustrates Advanced Cell's current laboratory space in Worcester.

## Key Investment Points

- Advanced Cell scientists have successfully generated human embryonic stem (ES) cells using an approach that does not harm embryos. The technique uses a method for deriving stem cells from human blastomeres with a single-cell biopsy technique called preimplantation genetic diagnosis (PGD). This unique method bypasses the traditional stem cell creation methods that necessitated destroying an embryo's inner cell mass and has the potential to address the ethical concerns of stem cell research as well as unlock federal funding avenues. Previously, Advanced Cell had developed a method of ES cell research in mice using a single-cell biopsy technique, which also does not interfere with the developmental potential of the embryos.
- The Company expects to file its initial Investigational New Drug (IND) applications for its Retinal Pigment Epithelium (RPE) program for the treatment of macular degeneration in the second half of 2007 and for both its Hemangioblast and Dermal programs in 2008. Advanced Cell could initiate human clinical trials for its RPE program following the 2007 IND application.
- One of the more significant obstacles facing regenerative medicine today is the potential rejection of ES cells in patients. Advanced Cell's research is focused on solving this problem by creating stem cell therapeutics which are histocompatible. By creating a technology that transforms a patient's cells into an embryonic state, where those cells can then be differentiated into specific therapeutically relevant cell types that are genetically identical to the patient, Advanced Cell believes that it can successfully combat the difficulty of immunocompatibility in patients.
- The Company's growth strategy is focused on cultivating relationships with collaborative partners to launch various product lines intended to be developed as a result of Advanced Cell's new technology. A primary objective of the Company's management is to find corporate partners to help move Advanced Cell's new human ES cell technology to the clinic. Management expects that its single-cell biopsy technologies combined with its Reduced Complexity Library (RCL) technology can make an attractive package of interest for large pharmaceutical companies.
- Due to recent legislation in California, specifically the passage of Proposition 71 allowing for \$3 billion to be granted to fund stem cell research, Advanced Cell opened a GMP-capable facility in Alameda, California to take advantage of this funding and expand its research and development capabilities. A California court recently ruled that Proposition 71 does not violate state law; although, this case is currently on appeal.
- Governor Schwarzenegger authorized \$150 million in loans to California's state stem cell agency, quadrupling the amount of money available to begin research on stem cells. However, the bonds cannot be sold to the general public while the litigation for Proposition 71 is still pending. In the meantime, the agency's bond-financing board approved \$200 million to be sold privately.
- As more states and entities allow and fund ES cell research, advancements and collaborations in this area that were previously improbable are now much more likely. Advanced Cell expects to benefit from the competition of ideas in the marketplace, finding collaborative partners with which to move forward with its technology. For example, in April 2006, the Company entered into a collaboration agreement with Xgene Corporation of Sausalito, California.
- Advanced Cell is supported by a broad intellectual property portfolio. The Company currently owns or has exclusive licenses to over 30 patents and has over 280 patent applications pending worldwide in the field of regenerative medicine and stem cell therapy. Recent licenses include agreements with Kirin Brewery Company, Ltd. and TranXenoGen, Inc., of Shrewsbury, Massachusetts. In addition, the Company believes it has a strong IP position with regards to its new developments in hES cell lines.
- Cash and cash equivalents on June 30, 2006 were approximately \$5.3 million versus approximately \$13.9 million on December 31, 2005 and \$3.2 million on June 30, 2005. Subsequent to the quarter, on August 25, the Company announced that it is to receive approximately \$13.5 million from two separate financing transactions.

## Potential Risks

Some of the information in this Quarterly Update relates to future events or future business and financial performance. Such statements can only be predictions and the actual events or results may differ from those discussed due to the risks described in Advanced Cell's statements on Forms 10-KSB, 10-QSB, 8-K, as well as other forms filed from time to time. The content of this update with respect to Advanced Cell has been compiled primarily from information available to the public released by Advanced Cell through news releases, Annual Reports, and SEC filings. Advanced Cell is solely responsible for the accuracy of this information. Information as to other companies has been prepared from publicly available information and has not been independently verified by Advanced Cell. Certain summaries of activities have been condensed to aid the reader in gaining a general understanding. For more complete information about Advanced Cell, please refer to the Company's website at [www.advancedcell.com](http://www.advancedcell.com). Additionally, please refer to Crystal Research Associates' initial report, the Executive Informational Overview<sup>®</sup> (EIO<sup>®</sup>) dated February 22, 2006 and located on Crystal Research Associates' website [www.crystalra.com](http://www.crystalra.com) and the Company's website [www.advancedcell.com](http://www.advancedcell.com) for more comprehensive details of Risk Factors.

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# Crystal Research

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