As filed with the Securities and Exchange Commission on May 4, 2010

Registration No. 333-164540

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

Amendment No. 3
to
Form S-1 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

INTERNATIONAL STEM CELL CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	2834	20-4494098
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code number)	(I.R.S. Employer Identification No.)

2595 Jason Court
Oceanside, CA 92056
(760) 940-6383
(Address and telephone number of principal executive offices)

RAY WOOD
2595 Jason Court
Oceanside, CA 92056
(760) 940-6383
(Name, address and telephone number of agent for service)

Copies to:
DOUGLAS REIN
DLA PIPER LLP (US)
4365 Executive Drive, Suite 1100
San Diego, CA 92121-2133
(858) 677-1443

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, please 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(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 Exchange Act. (Check one):

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☒

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price	Amount of registration fee (1)
Common Stock	$500,000	$36
Preferred Stock	$10,000,000	$713
Warrants to purchase Common Stock	—(2)	—
Common Stock issuable upon exercise of Warrants (3)	$13,500,000	$963
Total Registration Fee	$24,000,000	$1,712(4)

(1) Calculated pursuant to Rule 457(o) on the basis of the maximum aggregate offering price of all of the securities to be registered.
(2) The warrants will be issued for no additional consideration to purchasers of the common stock and/or preferred stock.
(3) Pursuant to Rule 416, the securities being registered hereunder include such indeterminant number of additional shares of common stock as may be issuable upon exercise of warrants registered hereunder as a result of stock splits, stock dividends, or similar transactions.
(4) Previously paid.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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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 we are not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 4, 2010

International Stem Cell Corporation

Up to 1,000 Shares of Series F Preferred Stock
Warrants to Purchase up to 7,000,000 shares of common stock
(together with the shares issuable upon exercise thereof), and
Up to 280,000 shares of common stock

We are offering to one or more institutional investors an aggregate of up to $10,000,000 of our Series F Preferred Stock, or 1,000 shares based on a stated value of $10,000 per share, and warrants to purchase up to 7,000,000 shares of our common stock. Purchasers of preferred stock will receive a warrant to purchase $13,500 worth of shares of common stock (or 5,844 shares of common stock based on an assumed exercise price of $2.31 per share, which was the closing bid price of our common stock on May 3, 2010) and $500 worth of common stock (or 225 shares of common stock based on 90% of the volume weighted average price for the five trading days ending on May 3, 2010) for each share of preferred stock that they purchase. The exercise price of the warrants will be set at the closing bid price of our common stock on the day preceding the execution of the first purchase agreement with the investor(s). The number of shares of common stock issuable to purchasers of Series F Preferred Stock will be computed based on 90% of the volume weighted average price of the shares of our common stock for the five trading days immediately preceding the execution of the purchase agreement. The preferred stock will accrue a dividend in shares of Series F Preferred Stock on a daily basis at a rate equal to 10% per annum from the date of issuance, with the dividend being payable on the date the preferred stock is redeemed. The preferred stock is redeemable commencing one year after its issuance, subject to payment of redemption premiums that start at 26% and decline to 0% after the preferred stock has been outstanding for four years. The warrants will be exercisable on or after the applicable closing date of this offering through and including close of business on May , 2015 at an exercise price of $ per share of common stock, payable in cash or a secured note maturing four years after the date of issuance and accruing interest at 2% per annum. The shares of preferred stock, common stock and warrants are immediately separable and will be issued separately. There is no minimum offering.

Our common stock is quoted on the OTC Bulletin Board and trades under the symbol "ISCO.OB". The last reported sale price of our common stock on the OTC Bulletin Board on May 3, 2010, was $2.31 per share.

Investing in the offered securities involves substantial risks. See "Risk Factors," beginning on page 4.

	Per Share	Total
Offering Price per share of preferred stock	$	$
Offering Proceeds before expenses	$	$

We estimate the total expenses of this offering will be approximately $. Because there is no minimum offering amount required as a condition to closing in this offering, the actual public offering amount, and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering amounts set forth above. See "Plan of Distribution" beginning on page 19 of this prospectus for more information on this offering.

This offering will terminate on , 2010, unless the offering is fully subscribed before that date or we decide to terminate the offering prior to that date. In either event, the offering may be closed without further notice to you.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is May , 2010.

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INTERNATIONAL STEM CELL CORPORATION HAS NOT REGISTERED THE SHARES FOR SALE UNDER THE SECURITIES LAWS OF ANY STATE. OFFERS AND SALES WILL ONLY BE MADE TO PERSONS FOR WHICH THE COMPANY BELIEVES THERE ARE EXEMPTIONS FROM SUCH REGISTRATION REQUIREMENT UNDER THE LAWS AND REGULATIONS OF THE STATE IN QUESTION. BROKERS OR DEALERS EFFECTING TRANSACTIONS IN THE SHARES SHOULD CONFIRM THAT THE SHARES HAVE BEEN REGISTERED UNDER THE SECURITIES LAWS OF THE STATE OR STATES IN WHICH SALES OF THE SHARES OCCUR AS OF THE TIME OF SUCH SALES, OR THAT THERE IS AN AVAILABLE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES LAWS OF SUCH STATES.

THIS PROSPECTUS IS NOT AN OFFER TO SELL ANY SECURITIES OTHER THAN THE SHARES. THIS PROSPECTUS IS NOT AN OFFER TO SELL SECURITIES TO ANY PERSON OR IN ANY PARTICULAR JURISDICTION IN ANY CIRCUMSTANCES IN WHICH SUCH AN OFFER OR SALE IS UNLAWFUL.

INTERNATIONAL STEM CELL CORPORATION

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You should read this prospectus, including all documents incorporated herein by reference, together with additional information described under “Where You Can Find More Information.”

You may obtain the information incorporated by reference without charge by following the instructions under “Where You Can Find More Information.”

You may only rely on the information contained in this prospectus or that we have referred you to. We have not authorized anyone to provide you with different information. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities other than the securities offered by this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities in any circumstances in which such offer or solicitation is unlawful. Neither the delivery of this prospectus nor any sale made in connection with this prospectus shall, under any circumstances, create any implication that there has been no change in our affairs since the date of this prospectus or that the information contained by reference to this prospectus is correct as of any time after its date. In this prospectus, references to "International Stem Cell Corporation," "the Company," "we," "us," and "our," refer to International Stem Cell Corporation.

PROSPECTUS SUMMARY

Business Overview

We are a biotechnology company currently focused on developing therapeutic products and research products. In the area of therapeutic product development, our objective is to create an unlimited source of human cells for use in the treatment of several diseases including diabetes, liver disease, corneal disease and retinal disease through cell transplant therapy. In furtherance of this objective, we are currently developing (i) pluripotent stem cells that are comparable in function to, but distinct in derivation from, embryonic stem cells from which cells for human transplant can be derived, (ii) techniques to cause those cells to be differentiated into the specific cell types required for transplant, and (iii) manufacturing protocols to produce these cells without contamination with animal by-products in compliance with U.S. Food and Drug Administration requirements. While our cell lines are comparable to embryonic cell lines because they have the potential to become any cell in the human body through differentiation, the development of our cell lines does not require the use of fertilized eggs or the destruction of any embryos created through fertilization.

According to the National Institutes of Health, research on stem cells is advancing knowledge about how an organism develops from a single cell and how healthy cells replace damaged cells in adult organisms. This area of science is also leading scientists to investigate the possibility of cell-based therapies to treat disease, which is often referred to as regenerative or reparative medicine. A potential application of human stem cells is the generation of cells and tissues that may be used for cell-based therapies. Today, donated organs and tissues are often used to replace ailing or destroyed tissue, but the need for transplantable tissues and organs far outweighs the available supply. Stem cells, directed to differentiate into specific cell types, offer the possibility of a renewable source of replacement cells and tissues to treat diseases including diabetes, liver disease, corneal disease and retinal disease.

Pluripotent stem cells are undifferentiated primary cells that have the potential to become any tissues or organs of the body. However, stem cell therapies have technical, ethical and legal hurdles to overcome before they will be able to be used to effect tissue and organ repair. To realize the promise of cell-based therapies for the treatment of diseases, scientists must be able to manipulate stem cells so that they possess the necessary characteristics for successful differentiation, transplantation and engraftment. The following is a list of some of the major steps in successful cell-based treatments that scientists will have to learn to precisely control to ready such treatments for clinical use. To be useful for transplant purposes, stem cells must be reproducibly made to:

- proliferate extensively and generate sufficient quantities of stem cells;
- differentiate into the desired cell type(s) and generate sufficient quantities of those cell types;
- survive in the recipient after transplant;
- integrate into the surrounding tissue after transplant;

- function appropriately;
- avoid harming the recipient; and
- avoid or reduce the problem of immune rejection.

We believe that the market for our products will be substantial given the current limited supply of human cells required to make transplants possible, the need for cells that will not be rejected, and the need for cells produced without contamination by animal by-products. Addressing these core issues will provide an excellent opportunity for the commercialization of our products.

During 2007 and 2008, we had two peer review papers published describing our procedures for creating pluripotent stem cells through parthenogenesis.

In addition to the work we are doing to develop cells for therapeutic cell transplant, we are engaged in the development, production and sale of specialty research products (specialized cell systems, media and reagents for use in stem cell and other medical research) which we have commercialized and are selling to academic institutions, government entities, and commercial research companies. This portion of our business is focused on the needs of stem cell researchers for specialized cells, media and reagents used in the development of therapeutic products. The sale of these research products is expected to provide us with revenue to support a portion of the development of therapeutic products.

Our principal executive offices are located at 2595 Jason Court, Oceanside, California 92056, and our telephone number is (760) 940-6383.

The Offering

Securities Offered:	Up to $10,000,000 of our Series F Preferred Stock, or 1,000 shares based on a stated value of $10,000 per share, and warrants to purchase up to 7,000,000 shares of our common stock. Purchasers of preferred stock will receive a warrant to purchase $13,500 worth of shares of common stock and $500 worth of common stock for each share of preferred stock that they purchase.
Offering Price:	$ per share of preferred stock.
Description of Warrants:	The warrants will be exercisable on or after the applicable closing date of this offering through and including close of business on May , 2015 at an exercise price of $ per share, payable in cash or a secured note maturing four years after the date of issuance and accruing interest at 2% per annum.
Common Stock Outstanding Before the Offering:	63,483,533 shares (1)
Common Stock Outstanding After the Offering:	shares, which does not include shares of common stock issuable upon exercise of the warrants included in the offering or the shares of common stock issuable upon the exercise of the warrants.
Use of Proceeds:	We expect to use the proceeds received from the offering to fund our research and development activities, including research involving the derivation and differentiation of parthenogenetic stem cells and for general working capital needs.
Risk Factors:	See “Risk Factors” beginning on page 4 and the other information in this prospectus for a discussion of the factors you should consider before you decide to invest in the offering.

(1) The total number of shares of our common stock outstanding as of March 31, 2010 is 63,483,533, and excludes:

- 4,410,000 shares of common stock reserved for issuance upon exercise of warrants that would be exercisable in the event we elect to sell Optimus Capital additional shares of Series E Preferred Stock;
- 20,693,630 shares of common stock issuable upon exercise of outstanding stock options, including those options issued outside the 2006 stock option plan, at a weighted average exercise price of $0.72 per share;
- 4,530,000 additional shares of common stock reserved for issuance under various outstanding warrant agreements, at an exercise price of $0.25 per share, 1,380,721 additional shares of common stock reserved for issuance under various outstanding warrant agreements, at an exercise price of $0.80 per share, and 1,844,106 additional shares of common stock reserved for issuance under a warrant issued to Brookstreet Securities Corporation, at an exercise price of $0.56 per share;
- 28,486,800 additional shares of common stock reserved for issuance upon conversion of our outstanding shares of Series A, Series B, Series C and Series D Preferred Stock; and
- 6,439,463 additional shares of common stock reserved for future issuance under our 2006 stock option plan.

Unless otherwise specifically stated, information throughout this prospectus does not assume the exercise of outstanding options or warrants to purchase shares of our common stock or that we may issue pursuant to our arrangement with Optimus Capital.

RISK FACTORS

You should carefully consider the risks described below as well as other information provided to you in this document, including information in the section of this document entitled "Forward Looking Statements." The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations could be materially adversely affected, the value of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Business

Our business is at an early stage of development and we may not develop therapeutic products that can be commercialized.

Our business is at an early stage of development. We do not have any products in late-stage clinical trials. We are still in the early stages of identifying and conducting research on potential therapeutic products. Our potential therapeutic products will require significant research and development and preclinical and clinical testing prior to regulatory approval in the United States and other countries. We may not be able to obtain regulatory approvals, enter clinical trials for any of our product candidates, or commercialize any products. Our product candidates may prove to have undesirable and unintended side effects or other characteristics adversely affecting their safety, efficacy or cost-effectiveness that could prevent or limit their use. Any product using any of our technology may fail to provide the intended therapeutic benefits, or achieve therapeutic benefits equal to or better than the standard of treatment at the time of testing or production.

We have a history of operating losses and do not expect to be profitable in the near future.

We have not generated any profits since our entry into the biotechnology business and have incurred significant operating losses. We expect to incur additional operating losses for the foreseeable future and, as we increase our research and development activities, we expect our operating losses to increase significantly. We do not have any sources of significant revenues and may not have any in the foreseeable future.

We will need additional capital to conduct our operations and develop our products and our ability to obtain the necessary funding is uncertain.

We need to obtain significant additional capital resources in order to develop products. Our current burn rate is approximately $550,000 per month excluding capital expenditures and we have been funding this through private equity financings, as required. We believe that more formal financing in an amount sufficient to fund operations for a year or more will be required and we intend to seek such financing when the capital markets permit. However, if such financing is not available or available only on terms that are detrimental to the long-term survival of the company, it could have a major adverse effect on our ability to continue to function. The timing and degree of any future capital requirements will depend on many factors, including:

- the accuracy of the assumptions underlying our estimates for capital needs in 2010 and beyond;
- scientific progress in our research and development programs;
- the magnitude and scope of our research and development programs and our ability to establish, enforce and maintain strategic arrangements for research, development, clinical testing, manufacturing and marketing;
- our progress with preclinical development and clinical trials;
- the time and costs involved in obtaining regulatory approvals;

- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims; and
- the number and type of product candidates that we pursue.

Additional financing through strategic collaborations, public or private equity financings or other financing sources may not be available on acceptable terms, or at all. Additional equity financing could result in significant dilution to our stockholders. Further, if additional funds are obtained through arrangements with collaborative partners, these arrangements may require us to relinquish rights to some of our technologies, product candidates or products that we would otherwise seek to develop and commercialize on our own. If sufficient capital is not available, we may be required to delay, reduce the scope of or eliminate one or more of our research or product development initiatives, any of which could have a material adverse affect on our financial condition or business prospects.

Clinical trials are subject to extensive regulatory requirements, very expensive, time-consuming and difficult to design and implement. Our products may fail to achieve necessary safety and efficacy endpoints during clinical trials.

Human clinical trials can be very expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. The clinical trial process is also time consuming. We estimate that clinical trials of our product candidates will take at least several years to complete. Furthermore, failure can occur at any stage of the trials, and we could encounter problems that cause us to abandon or repeat clinical trials. The commencement and completion of clinical trials may be affected by several factors, including:

- unforeseen safety issues;
- determination of dosing issues;
- inability to demonstrate effectiveness during clinical trials;
- slower than expected rates of patient recruitment;
- inability to monitor patients adequately during or after treatment; and
- inability or unwillingness of medical investigators to follow our clinical protocols.

In addition, we or the FDA may suspend our clinical trials at any time if it appears that we are exposing participants to unacceptable health risks or if the FDA finds deficiencies in our IND submissions or the conduct of these trials.

Patents held by other persons may result in infringement claims against us that are costly to defend and which may limit our ability to use the disputed technologies and prevent us from pursuing research and development or commercialization of potential products.

A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have been issued patents relating to cell therapy, stem cells, and other technologies potentially relevant to or required by our expected products. We cannot predict which, if any, of such applications will issue as patents or the claims that might be allowed. We are aware that a number of companies have filed applications relating to stem cells. We are also aware of a number of patent applications and patents claiming use of stem cells and other modified cells to treat disease, disorder or injury. If third party patents or patent applications contain claims infringed by either our licensed technology or other technology required to make and use our potential products and such claims are ultimately determined to be valid, we might not be able to obtain licenses to these patents at a reasonable cost, if at all, or be able to develop or obtain alternative technology. If we are unable to obtain such licenses at a reasonable cost, we may not be able to develop some products commercially. We may be required to defend ourselves in court against allegations of infringement of third party patents. Patent litigation is very expensive and could consume substantial resources and create significant uncertainties. An adverse outcome in such a suit could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties, or require us to cease using such technology.

We may not be able to adequately protect against piracy of intellectual property in foreign jurisdictions.

Considerable research in the areas of stem cells, cell therapeutics and regenerative medicine is being performed in countries outside of the United States, and a number of our competitors are located in those countries. The laws protecting intellectual property in some of those countries may not provide adequate protection to prevent our competitors from misappropriating our intellectual property.

Our competition includes fully integrated biotechnology and pharmaceutical companies that have significant advantages over us.

The market for therapeutic stem cell products is highly competitive. We expect that our most significant competitors will be fully integrated pharmaceutical companies and more established biotechnology and stem cell companies. These companies are developing stem cell-based products and they have significantly greater capital resources and research and development, manufacturing, testing, regulatory compliance, and marketing capabilities. Many of these potential competitors are further along in the process of product development and also operate large, company-funded research and development programs. As a result, our competitors may develop more competitive or affordable products, or achieve earlier patent protection or product commercialization than we are able to achieve. Competitive products may render any products or product candidates that we develop obsolete.

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

Our business depends in part on licenses from third parties. These third party license agreements impose obligations on us, such as payment obligations and obligations to diligently pursue development of commercial products under the licensed patents. 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, our ability to continue our business based on the affected technology platform could be severely adversely affected.

Restrictive and extensive government regulation could slow or hinder our production of a cellular product.

The research and development of stem cell therapies is subject to and restricted by extensive regulation by governmental authorities in the United States and other countries. The process of obtaining FDA and other necessary regulatory approvals is lengthy, expensive and uncertain. We may fail to obtain the necessary approvals to continue our research and development, which would hinder our ability to manufacture or market any future product.

Research in the field of nuclear transfer and embryonic stem cells is currently subject to strict government regulations, and our operations could be restricted or outlawed by any legislative or administrative efforts impacting the use of nuclear transfer technology or human embryonic material.

Our business is focused on human cell therapy, which includes the production of human differentiated cells from stem cells and involves human oocytes. Although our focus is on stem cells derived from unfertilized oocytes, certain aspects of that work may involve the use of nuclear transfer technology or material deemed to be embryonic material. Nuclear transfer technology, commonly known as therapeutic cloning, and research utilizing embryonic stem cells is controversial, and currently subject to intense scrutiny, particularly in the area of nuclear transfer of human cells and the use of human embryonic material. Cloning for research purposes is unlawful in many states and this type of prohibition may expand into other states, including some where we now operate.

Federal law no longer restricts the use of federal funds for human embryonic cell research, commonly referred to as hES cell research, however, our operations may be restricted by future legislative or administrative efforts by politicians or groups opposed to the development of hES cell technology or nuclear transfer technology, and such efforts may be extended to include our parthenogenic technology. Further, future legislative or administrative restrictions could, directly or indirectly, delay, limit or prevent the use of hES technology, nuclear transfer technology, the use of human embryonic material, or the sale, manufacture or use of products or services derived from nuclear transfer technology or other hES technology, or be extended to include our parthenogenetic processes.

Restrictions on the use of human stem cells, and the ethical, legal and social implications of that research, could prevent us from developing or gaining acceptance for commercially viable products in these areas.

Although our stem cells are derived from unfertilized human eggs through a process called "parthenogenesis" that can produce cells suitable for therapy, but are believed to be incapable of producing a human being, such cells are nevertheless often referred to as "embryonic" stem cells. Because the use of human embryonic stem cells gives rise to ethical, legal and social issues regarding the appropriate use of these cells, our research related to human parthenogenic stem cells could become the subject of adverse commentary or publicity and some political and religious groups may still raise opposition to our technology and practices. In addition, many research institutions, including some of our scientific collaborators, have adopted policies regarding the ethical use of human embryonic tissue, which, if applied to our procedures, may have the effect of limiting the scope of research conducted using our stem cells, thereby impairing our ability to conduct research in this field. In some states, use of embryos as a source of stem cells is prohibited.

To the extent we utilize governmental grants in the future, the governmental entities involved may retain certain rights in technology that we develop using such grant money and we may lose the revenues from such technology if we do not commercialize and utilize the technology pursuant to established government guidelines.

Certain of our licensors' research has been or is being funded in part by government grants and our research may be so funded in the future. In connection with certain grants, the governmental entity involved retains rights in the technology developed with the grant. These rights could restrict our ability to fully capitalize upon the value of this research by reducing total revenues that might otherwise be available since such governmental rights may give the government the right to practice the invention without payment of royalties if we do not comply with applicable requirements.

We rely on parthenogenesis, cell differentiation and other stem cell technologies that we may not be able to successfully develop, which may prevent us from generating revenues, operating profitably or providing investors any return on their investment.

We have concentrated our research on our parthenogenesis, cell differentiation and stem cell technologies, and our ability to operate profitably will depend on being able to successfully implement or develop these technologies for human applications. These are emerging technologies with, as yet, limited human applications. We cannot guarantee that we will be able to successfully implement or develop our nuclear transfer, parthenogenesis, cell differentiation and other stem cell technologies or that these technologies will result in products or services with any significant commercial utility. We anticipate that the commercial sale of such products or services, and royalty/licensing fees related to our technology, would be our primary sources of revenues.

The outcome of pre-clinical, clinical and product testing of our products is uncertain, and if we are unable to satisfactorily complete such testing, or if such testing yields unsatisfactory results, we will be unable to commercially produce our proposed products.

Before obtaining regulatory approvals for the commercial sale of any potential human products, our products will be subjected to extensive pre-clinical and clinical testing to demonstrate their safety and efficacy in humans. The

clinical trials of our prospective products, or those of our licensees or collaborators, may not demonstrate the safety and efficacy of such products at all, or to the extent necessary to obtain appropriate regulatory approvals. Similarly, the testing of such prospective products may not be completed in a timely manner, if at all, or only after significant increases in costs, program delays or both, all of which could harm our ability to generate revenues. In addition, our prospective products may not prove to be more effective for treating disease or injury than current therapies. Accordingly, we may have to delay or abandon efforts to research, develop or obtain regulatory approval to market our prospective products. The failure to adequately demonstrate the safety and efficacy of a therapeutic product under development could delay or prevent regulatory approval of the product and could harm our ability to generate revenues, operate profitably or produce any return on an investment in us.

If we are unable to keep up with rapid technological changes in our field or compete effectively, we will be unable to operate profitably.

We are engaged in activities in the biotechnology field, which is characterized by extensive research efforts and rapid technological progress. If we fail to anticipate or respond adequately to technological developments, our ability to operate profitably could suffer. Research and discoveries by other biotechnology, agricultural, pharmaceutical or other companies may render our technologies or potential products or services uneconomical or result in products superior to those we develop. Similarly, any technologies, products or services we develop may not be preferred to any existing or newly-developed technologies, products or services.

We may not be able to protect our proprietary technology, which could harm our ability to operate profitably.

The biotechnology and pharmaceutical industries place considerable importance on obtaining patent and trade secret protection for new technologies, products and processes. Our success will depend, to a substantial degree, on our ability to obtain and enforce patent protection for our products, preserve any trade secrets and operate without infringing the proprietary rights of others. We cannot assure you that:

- we will succeed in obtaining any patents, obtain them in a timely manner, or that the breadth or degree of protection that any such patents will protect our interests;
- the use of our technology will not infringe on the proprietary rights of others;
- patent applications relating to our potential products or technologies will result in the issuance of any patents or that, if issued, such patents will afford adequate protection to us or will not be challenged, invalidated or infringed; or
- patents will not be issued to other parties, which may be infringed by our potential products or technologies.

We are aware of certain patents that have been granted to others and certain patent applications that have been filed by others with respect to nuclear transfer and other stem cell technologies. The fields in which we operate have been characterized by significant efforts by competitors to establish dominant or blocking patent rights to gain a competitive advantage, and by considerable differences of opinion as to the value and legal legitimacy of competitors' purported patent rights and the technologies they actually utilize in their businesses.

Our business is highly dependent upon maintaining licenses with respect to key technology.

Although our primary focus relates to intellectual property we have developed internally, some of the patents we utilize are licensed to us by Advanced Cell Technology, which has licensed some of these from other parties, including the University of Massachusetts. These licenses are subject to termination under certain circumstances (including, for example, our failure to make minimum royalty payments or to timely achieve development and commercialization benchmarks). The loss of any of such licenses, or the conversion of such licenses to non-exclusive licenses, could harm our operations and/or enhance the prospects of our competitors.

Although our licenses with Advanced Cell Technology allow us to cure any defaults under the underlying licenses to them and to take over the patents and patents pending in the event of default by Advanced Cell

Technology, the cost of such remedies could be significant and we might be unable to adequately maintain these patent positions. If so, such inability could have a material adverse affect on our business. Some of these licenses also contain restrictions (*e.g.*, limitations on our ability to grant sublicenses) that could materially interfere with our ability to generate revenue through the licensing or sale to third parties of important and valuable technologies that we have, for strategic reasons, elected not to pursue directly. In the future we may require further licenses to complete and/or commercialize our proposed products. We may not be able to acquire any such licenses on a commercially viable basis.

Certain of our technology may not be subject to protection through patents, which leaves us vulnerable to theft of our technology.

Certain parts of our know-how and technology are not patentable. To protect our proprietary position in such know-how and technology, we intend to require all employees, consultants, advisors and collaborators to enter into confidentiality and invention ownership agreements with us. These agreements may not provide meaningful protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure. Further, in the absence of patent protection, competitors who independently develop substantially equivalent technology may harm our business.

We depend on our collaborators to help us develop and test our proposed products, and our ability to develop and commercialize products may be impaired or delayed if collaborations are unsuccessful.

Our strategy for the development, clinical testing and commercialization of our proposed products requires that we enter into collaborations with corporate partners, licensors, licensees and others. We are dependent upon the subsequent success of these other parties in performing their respective responsibilities and the continued cooperation of our partners. Our collaborators may not cooperate with us or perform their obligations under our agreements with them. We cannot control the amount and timing of our collaborators' resources that will be devoted to our research and development activities related to our collaborative agreements with them. Our collaborators may choose to pursue existing or alternative technologies in preference to those being developed in collaboration with us.

Under agreements with collaborators, we may rely significantly on such collaborators to, among other things:

- design and conduct advanced clinical trials in the event that we reach clinical trials;
- fund research and development activities with us;
- pay us fees upon the achievement of milestones; and
- market with us any commercial products that result from our collaborations.

The development and commercialization of potential products will be delayed if collaborators fail to conduct these activities in a timely manner, or at all. In addition, our collaborators could terminate their agreements with us and we may not receive any development or milestone payments. If we do not achieve milestones set forth in the agreements, or if our collaborators breach or terminate their collaborative agreements with us, our business may be materially harmed.

Our reliance on the activities of our non-employee consultants, research institutions, and scientific contractors, whose activities are not wholly within our control, may lead to delays in development of our proposed products.

We rely extensively upon and have relationships with scientific consultants at academic and other institutions, some of whom conduct research at our request, and other consultants with expertise in clinical development strategy or other matters. These consultants are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. We have limited control over the activities of these consultants and, except as otherwise required by our collaboration and consulting agreements to the extent they exist, can expect only limited amounts of their time to be dedicated to our activities. These

research facilities may have commitments to other commercial and non-commercial entities. We have limited control over the operations of these laboratories and can expect only limited amounts of time to be dedicated to our research goals.

We may be subject to litigation that will be costly to defend or pursue and uncertain in its outcome.

Our business may bring us into conflict with our licensees, licensors or others with whom we have contractual or other business relationships, or with our competitors or others whose interests differ from ours. If we are unable to resolve those conflicts on terms that are satisfactory to all parties, we may become involved in litigation brought by or against us. That litigation is likely to be expensive and may require a significant amount of management's time and attention, at the expense of other aspects of our business. The outcome of litigation is always uncertain, and in some cases could include judgments against us that require us to pay damages, enjoin us from certain activities, or otherwise affect our legal or contractual rights, which could have a significant adverse effect on our business.

We may not be able to obtain third-party patient reimbursement or favorable product pricing, which would reduce our ability to operate profitably.

Our ability to successfully commercialize certain of our proposed products in the human therapeutic field may depend to a significant degree on patient reimbursement of the costs of such products and related treatments at acceptable levels from government authorities, private health insurers and other organizations, such as health maintenance organizations. Reimbursement in the United States or foreign countries may not be available for any products we may develop, and, if available, may be decreased in the future. Also, reimbursement amounts may reduce the demand for, or the price of, our products with a consequent harm to our business. We cannot predict what additional regulation or legislation relating to the health care industry or third-party coverage and reimbursement may be enacted in the future or what effect such regulation or legislation may have on our business. If additional regulations are overly onerous or expensive, or if health care related legislation makes our business more expensive or burdensome than originally anticipated, we may be forced to significantly downsize our business plans or completely abandon our business model.

Our products may be expensive to manufacture, and they may not be profitable if we are unable to control the costs to manufacture them.

Our products may be significantly more expensive to manufacture than other therapeutic products currently on the market today. We hope to substantially reduce manufacturing costs through process improvements, development of new science, increases in manufacturing scale and outsourcing to experienced manufacturers. If we are not able to make these, or other improvements, and depending on the pricing of the product, our profit margins may be significantly less than that of other therapeutic products on the market today. In addition, we may not be able to charge a high enough price for any cell therapy product we develop, even if they are safe and effective, to make a profit. If we are unable to realize significant profits from our potential product candidates, our business would be materially harmed.

To be successful, our proposed products must be accepted by the health care community, which can be very slow to adopt or unreceptive to new technologies and products.

Our proposed products and those developed by our collaborative partners, if approved for marketing, may not achieve market acceptance since hospitals, physicians, patients or the medical community in general may decide not to accept and utilize these products. The products that we are attempting to develop represent substantial departures from established treatment methods and will compete with a number of more conventional therapies manufactured and marketed by major pharmaceutical companies. The degree of market acceptance of any of our developed products will depend on a number of factors, including:

- our establishment and demonstration to the medical community of the clinical efficacy and safety of our proposed products;

- our ability to create products that are superior to alternatives currently on the market;
- our ability to establish in the medical community the potential advantage of our treatments over alternative treatment methods; and
- reimbursement policies of government and third-party payers.

If the healthcare community does not accept our products for any of the foregoing reasons, or for any other reason, our business would be materially harmed.

We depend on key personnel for our continued operations and future success, and a loss of certain key personnel could significantly hinder our ability to move forward with our business plan.

Because of the specialized nature of our business, we are highly dependent on our ability to identify, hire, train and retain highly qualified scientific and technical personnel for the research and development activities we conduct or sponsor. The loss of one or more key executive officers, or scientific officers, would be significantly detrimental to us. In addition, recruiting and retaining qualified scientific personnel to perform research and development work is critical to our success. Our anticipated growth and expansion into areas and activities requiring additional expertise, such as clinical testing, regulatory compliance, manufacturing and marketing, will require the addition of new management personnel and the development of additional expertise by existing management personnel. There is intense competition for qualified personnel in the areas of our present and planned activities, and we may not be able to continue to attract and retain the qualified personnel necessary for the development of our business. The failure to attract and retain such personnel or to develop such expertise would adversely affect our business.

We may not have sufficient product liability insurance, which may leave us vulnerable to future claims we will be unable to satisfy.

The testing, manufacturing, marketing and sale of human therapeutic products entail an inherent risk of product liability claims. We currently have a limited amount of product liability insurance, which may not be adequate to meet potential product liability claims. In the event we are forced to expend significant funds on defending product liability actions, and in the event those funds come from operating capital, we will be required to reduce our business activities, which could lead to significant losses. Adequate insurance coverage may not be available in the future on acceptable terms, if at all. If available, we may not be able to maintain any such insurance at sufficient levels of coverage and any such insurance may not provide adequate protection against potential liabilities. Whether or not a product liability insurance policy is obtained or maintained in the future, any product liability claim could harm our business or financial condition.

Risks Related to the Securities Markets and Our Capital Structure

Stock prices for biotechnology companies have historically tended to be very volatile.

Stock prices and trading volumes for many biotechnology companies fluctuate widely for a number of reasons, including but not limited to the following factors, some of which may be unrelated to their businesses or results of operations:

- clinical trial results;
- the amount of cash resources and such company’s ability to obtain additional funding;
- announcements of research activities, business developments, technological innovations or new products by competitors;
- entering into or terminating strategic relationships;
- changes in government regulation;

- disputes concerning patents or proprietary rights;
- changes in our revenues or expense levels;
- public concern regarding the safety, efficacy or other aspects of the products or methodologies we are developing;
- reports by securities analysts;
- activities of various interest groups or organizations;
- media coverage; and
- status of the investment markets. This market volatility, as well as general domestic or international economic, market and political conditions, could materially and adversely affect the market price of our common stock.

The application of the "penny stock" rules to our common stock could limit the trading and liquidity of our common stock, adversely affect the market price of our common stock and increase stockholder transaction costs to sell those shares.

As long as the trading price of our common stock is below $5.00 per share, the open-market trading of our common stock will be subject to the "penny stock" rules, unless we otherwise qualify for an exemption from the "penny stock" definition. The "penny stock" rules impose additional sales practice requirements on certain broker-dealers who sell securities to persons other than established customers and accredited investors (generally those with assets in excess of $1,000,000 or annual income exceeding $200,000 or $300,000 together with their spouse). These regulations, if they apply, require the delivery, prior to any transaction involving a penny stock, of a disclosure schedule explaining the penny stock market and the associated risks. Under these regulations, certain brokers who recommend such securities to persons other than established customers or certain accredited investors must make a special written suitability determination regarding such a purchaser and receive such purchaser's written agreement to a transaction prior to sale. These regulations may have the effect of limiting the trading activity of our common stock, reducing the liquidity of an investment in our common stock and increasing the transaction costs for sales and purchases of our common stock as compared to other securities.

The market price for our common stock may be particularly volatile given our status as a relatively unknown company with a limited operating history and lack of profits, which could lead to wide fluctuations in our share price. The price at which stockholders purchase shares of our common stock may not be indicative of the price of our common stock that will prevail in the trading market.

The market for our common stock may be characterized by significant price volatility when compared to seasoned issuers, and we expect that our stock price could continue to be more volatile than a seasoned issuer for the indefinite future. The potential volatility in our share price is attributable to a number of factors. First, there has been limited trading in our common stock. As a consequence of this lack of liquidity, any future trading of shares by our stockholders may disproportionately influence the price of those shares in either direction. Second, we are a speculative or "risky" investment due to our limited operating history and lack of profits to date, and uncertainty of future market acceptance for our potential products. As a consequence of this enhanced risk, more risk averse investors may, under the fear of losing all or most of their investment in the event of negative news or lack of progress, be more inclined to sell their shares on the market more quickly and at greater discounts than would be the case with the stock of a seasoned issuer. Many of these factors will be beyond our control and may decrease the market price of our common stock, regardless of our operating performance. We cannot make any predictions or projections as to what the prevailing market price for our common stock will be at any time or as to what effect that the sale of shares or the availability of shares for sale at any time will have on the prevailing market price.

In addition, the market price of our common stock could be subject to wide fluctuations in response to:

- quarterly variations in our revenues and operating expenses;
- announcements of new products or services by us;
- fluctuations in interest rates;
- significant sales of our common stock;

- the operating and stock price performance of other companies that investors may deem comparable to us; and

- news reports relating to trends in our markets or general economic conditions.

Shares eligible for future sale may adversely affect the market.

From time to time, certain of our stockholders may be eligible to sell all or some of their shares of common stock by means of ordinary brokerage transactions in the open market pursuant to Rule 144 promulgated under the Securities Act of 1933, as amended, subject to certain limitations. In general, pursuant to Rule 144, a stockholder (or stockholders whose shares are aggregated) who is not an affiliate of our company and who has satisfied a six month holding period may, as long as we are current in our required filings with the SEC, sell securities without further limitation. Rule 144 also permits, under certain circumstances, the sale of securities, without any limitations, by a non-affiliate of our company who has satisfied a one-year holding period. Affiliates of our company who have satisfied a six month holding period may sell securities subject to limitations. Any substantial sale of our common stock pursuant to Rule 144 or pursuant to any resale prospectus may have an adverse effect on the market price of our securities. Currently, almost all of our securities are either free trading or subject to the release of trading restrictions under the six month or one year holding periods of Rule 144.

Certain provisions of our Certificate of Incorporation and Delaware law may make it more difficult for a third party to affect a change-in-control.

Our Certificate of Incorporation authorizes the Board of Directors to issue up to 20,000,000 shares of preferred stock and our Board of Directors has created and issued shares of six series of preferred stock. The preferred stock may be issued in one or more series, the terms of which may be determined at the time of issuance by the Board of Directors without further action by the stockholders. These terms may include voting rights including the right to vote as a series on particular matters, preferences as to dividends and liquidation, conversion rights, redemption rights and sinking fund provisions. The issuance of any preferred stock could diminish the rights of holders of our common stock, and therefore could reduce the value of such common stock. In addition, specific rights granted to future holders of preferred stock could be used to restrict our ability to merge with, or sell assets to, a third party. The ability of the Board of Directors to issue preferred stock could make it more difficult, delay, discourage, prevent or make it more costly to acquire the Company or affect a change-in-control.

The sale or issuance of a substantial number of shares may adversely affect the market price for our common stock.

The future sale of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could significantly and negatively affect the market price for our common stock. We expect that we will likely issue a substantial number of shares of our capital stock in financing transactions in order to fund our operations and the growth of our business. Under these arrangements, we may agree to register the shares for resale soon after their issuance. We may also continue to pay for certain goods and services with equity, which would dilute our current stockholders. Also, sales of the shares issued in this manner could negatively affect the market price of our stock.

Limitations on director and officer liability and indemnification of our officers and directors by us may discourage stockholders from bringing suit against a director.

Our certificate of incorporation and bylaws provide, with certain exceptions as permitted by governing state law, that a director or officer shall not be personally liable to us or our stockholders for breach of fiduciary duty as a director, except for acts or omissions which involve intentional misconduct, fraud or knowing violation of law, or unlawful payments of dividends. These provisions may discourage stockholders from bringing suit against a director for breach of fiduciary duty and may reduce the likelihood of derivative litigation brought by stockholders on our behalf against a director. In addition, our certificate of incorporation and bylaws may provide for mandatory indemnification of directors and officers to the fullest extent permitted by governing state law.

Compliance with the rules established by the SEC pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 will be complex. Failure to comply in a timely manner could adversely affect investor confidence and our stock price.

Rules adopted by the SEC pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 require us to perform an annual assessment of our internal controls over financial reporting, and certify the effectiveness of those controls. In the future, these rules will require us to secure an attestation of our assessment by our independent registered public accountants. The standards that must be met for management to assess the internal controls over financial reporting as now in effect are complex, and require significant documentation, testing and possible remediation to meet the detailed standards. We may encounter problems or delays in completing activities necessary to make an assessment of our internal controls over financial reporting. In addition, the attestation process is new for us and we may encounter problems or delays in completing the implementation of any requested improvements and receiving an attestation of the assessment by our independent registered public accountants. If we cannot perform the assessment or certify that our internal controls over financial reporting are effective, or our independent registered public accountants are unable to provide an unqualified attestation on such assessment, investor confidence and share value may be negatively impacted.

We do not expect to pay cash dividends in the foreseeable future. We have not paid cash dividends on our stock and we do not plan to pay cash dividends on our stock in the foreseeable future.

Risks Related to this Offering

Our management team will have immediate and broad discretion over the use of the net proceeds from this offering.

There is no minimum offering amount required as a condition to closing this offering and therefore net proceeds from this offering will be immediately available to our management to use at their discretion. The decisions made by our management may not result in positive returns on your investment and you will not have an opportunity to evaluate the economic, financial or other information upon which our management bases its decisions.

You will experience immediate and substantial dilution as a result of this offering and may experience additional dilution in the future.

You will incur immediate and substantial dilution in the net tangible book value per share of our common stock as a result of this offering. After giving effect to the sale by us of up to 1,000 shares of preferred stock, warrants to purchase up to 7,000,000 shares of our common stock and $500 worth of common stock for each share of preferred stock that is purchased in this offering at a public offering price of $ per share of preferred stock, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, investors in this offering can expect an immediate dilution of $ per share, or %, at the public offering price, assuming no exercise of the warrants. In addition, in the past, we issued options and warrants to acquire shares of common stock. To the extent these options are ultimately exercised, you will sustain future dilution. We may also acquire or license other technologies or finance strategic alliances by issuing equity, which may result in additional dilution to our stockholders.

There is no public market for the warrants to purchase common stock in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing the warrants on any securities exchange. Without an active market, the liquidity of the warrants will be limited.

The offering may not be fully subscribed, and, even if the offering is fully subscribed, we will need additional capital in the future. If additional capital is not available, we may not be able to continue to operate our business pursuant to our business plan or we may have to discontinue our operations entirely.

We may raise substantially less than the total maximum offering amounts. We will not provide any refund to investors if less than all of the shares are sold. Further, during 2009, we used a significant amount of cash to

finance the continued development and testing of our product candidates. If we continue to use cash at this rate we will need significant additional financing, which we may seek to raise through, among other things, public and private equity offerings and debt financing. Any equity financings will likely be dilutive to existing stockholders, and any debt financings will likely involve covenants restricting our business activities. Additional financing may not be available on acceptable terms, or at all.

FORWARD-LOOKING STATEMENTS

Information in this prospectus contains forward-looking statements. These forward-looking statements can be identified by the use of words such as “believes,” “estimates,” “could,” “possibly,” “probably,” “anticipates,” “projects,” “expects,” “may,” or “should” or other variations or similar words. No assurances can be given that the future results anticipated by the forward-looking statements will be achieved. The following matters constitute cautionary statements identifying important factors with respect to those forward-looking statements, including certain risks and uncertainties that could cause actual results to vary materially from the future results anticipated by those forward-looking statements. A description of key factors that have a direct bearing on our results of operations is provided above under “Risk Factors” beginning on page 4 of this Prospectus.

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of securities in this offering, assuming gross proceeds of $ million (which is the amount of gross proceeds received if the offering is fully subscribed), will be approximately $ million, after deducting the estimated expenses of this offering. In addition, if all of the warrants included in the units offered pursuant to this prospectus are exercised in full for cash, we will receive approximately an additional $ million in cash. We may not be successful in selling any or all of the securities offered hereby. Because there is no minimum offering amount required as a condition to closing in this offering, we may sell less than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us.

We expect to use any proceeds received from the offering:

- to fund our research and development activities, including research involving the derivation and differentiation of parthenogenetic stem cells and development of commercial research products; and
- for general working capital needs.

Even if we sell all of the securities subject to this offering on favorable terms, of which there can be no assurance, we will still need to obtain additional financing in the future in order to fully fund these product candidates through the regulatory approval process. We may seek such additional financing through public or private equity or debt offerings or other sources, including collaborative or other arrangements with corporate partners, and through government grants and contracts.

We will have significant discretion in the use of any net proceeds. Investors will be relying on the judgment of our management regarding the application of the proceeds of any sale of the securities.

We anticipate that the net proceeds obtained from this offering will be used to fund the following initiatives in order of priority (in thousands):

Research involving the development and differentiation of parthenogenetic stem cells	$
Development of commercial research products	$
Other research and development programs	$
General working capital purposes	$
Maximum net proceeds of the offering	$

We may invest the net proceeds received from this offering temporarily until we use them for their stated purpose.

DILUTION

Our reported net tangible book value as of December 31, 2009 was $(1,900,001), or $(0.03) per share of common stock, based upon 56,034,835 shares outstanding as of that date. Net tangible book value per share is determined by dividing such number of outstanding shares of common stock into our net tangible book value, which is our total tangible assets less total liabilities. After giving effect to the sale of the securities offered in this offering at the offering price of $ per share of preferred stock, at December 31, 2009, after deducting estimated offering expenses payable by us, our net tangible book value at December 31, 2009 would have been approximately , or $ per share. This represents an immediate increase in net tangible book value of approximately $ per share to our existing stockholders, and an immediate dilution of $ per share to investors purchasing shares in the offering.

The following table illustrates the per share dilution to investors purchasing securities in the offering:

Public offering price per share	$
Net tangible book value per share as of December 31, 2009	$
Increase per share attributable to sale of securities to investors	$
As adjusted net tangible book value per share after the offering	$
Dilution per share to investors	$
Dilution as a percentage of the offering price	%

The foregoing illustration does not reflect potential dilution from the exercise of outstanding options or warrants to purchase shares of our common stock, or from exercises of warrants that may be issued in the future in connection with sales of our Series E Preferred Stock to Optimus Capital.

DESCRIPTION OF SECURITIES

The following summary describes the material terms of our capital stock. It summarizes material provisions of our certificate of incorporation and by-laws.

General

Our certificate of incorporation authorizes us to issue 220,000,000 shares of capital stock, $0.001 par value per share, of which 200,000,000 shares are designated common stock and 20,000,000 shares are designated preferred stock.

Common Stock

Voting Rights

Holders of our common stock are entitled to one vote per share. Subject to any voting rights granted to holders of any preferred stock, the affirmative vote of a majority of the shares present in person or by proxy and entitled to vote on the subject matter, other than the election of directors, will generally be required to approve matters voted on by our stockholders. Directors will be elected by plurality of the votes of the shares present in person or represented by a proxy at the meeting entitled to vote on the election of directors. Our certificate of incorporation does not provide for cumulative voting.

Dividends

Subject to the rights of holders of any outstanding preferred stock, the holders of outstanding shares of our common stock will share ratably on a per share basis in any dividends declared from time to time by our Board of Directors.

Other Rights

Subject to the rights of holders of any outstanding preferred stock, upon our liquidation, dissolution or winding up, we will distribute any assets legally available for distribution to our stockholders, ratably among the holders of our common stock outstanding at that time.

Warrants to be Issued as Part of this Offering

The Warrants offered in this offering will be issued in the form that will be filed as an exhibit to the registration statement of which this prospectus is a part. You should review a copy of the form of warrant for a complete description of the terms and conditions applicable to the Warrants. The following is a brief summary of the Warrants and is subject in all respects to the provisions contained in the form of warrant.

Each Warrant represents the right to purchase one share of common stock at an exercise price equal to $ per share, subject to adjustment as described below. Each Warrant may be exercised on or after the applicable closing date of this offering through and including the close of business on May , 2015. The Warrant will have a cashless exercise right in the event that the common stock underlying the Warrants are not covered by an effective registration statement at the time of such exercise.

The exercise price and the number of shares underlying the Warrants are subject to appropriate adjustment in the event of stock splits, stock dividends on our common stock, stock combinations or similar events affecting our common stock. In addition, in the event we consummate any merger, consolidation, sale or other reorganization event in which our common stock is converted into or exchanged for securities, cash or other property or we consummate a sale of substantially all of our assets, then following such event, the holders of the Warrants will be entitled to receive upon exercise of the Warrants the kind and amount of securities, cash or other property which the holders would have received had they exercised the Warrants immediately prior to such reorganization event. In addition, if we are acquired by a company that does not have a market for its common stock, the holder of the Warrant may require us to repurchase the Warrant at its then fair value using the Black Scholes option pricing formula.

No fractional shares of common stock will be issued in connection with the exercise of a Warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the market value of a share of common stock. A Warrant may be transferred by a holder, upon surrender of the Warrant, properly endorsed (by the holder executing an assignment in the form attached to the Warrant). The Warrants will not be listed on any securities exchange or automated quotation system and we do not intend to arrange for any exchange or quotation system to list or quote the Warrants.

Preferred Stock

Our board of directors, without stockholder approval, may issue preferred stock in one or more series from time to time and fix or alter the designations, relative rights, priorities, preferences, qualifications, limitations and restrictions of the shares of each series, to the extent that those are not fixed in our certificate of incorporation.

The rights, preferences, limitations and restrictions of different series of preferred stock may differ with respect to dividend rates, amounts payable on liquidation, voting rights, conversion rights, redemption provisions, sinking fund provisions and other matters. Our board of directors may authorize the issuance of preferred stock that ranks senior to our common stock with respect to the payment of dividends and the distribution of assets on liquidation. In addition, our board of directors can fix the limitations and restrictions, if any, upon the payment of dividends on our common stock to be effective while any shares of preferred stock are outstanding.

We have issued shares of Series A, Series B, Series C, Series D and Series E Preferred Stock and we are offering shares of Series F Preferred Stock. These classes of preferred stock include voting rights, including the right to vote as a series on particular matters, preferences as to dividends and liquidation, conversion rights, redemption rights and sinking fund provisions.

The shares of Series F Preferred Stock have rights, preferences and privileges set forth in the Certificate of Designation filed as an exhibit to the Registration Statement. The shares of Series F Preferred Stock will have a stated value of $10,000 per share. The shares of Series F Preferred Stock have a cumulative dividend, accruing annually at the rate of 10%, with dividends payable on the redemption rate. The shares of Preferred Stock are redeemable at any time, but there is a redemption premium payable upon redemption prior to the fourth anniversary of the date of issuance.

PLAN OF DISTRIBUTION

No placement agent is being used in connection with this offering. We will enter into one or more purchase agreements directly with investors in connection with this offering.

If there is more than one purchaser and the purchase agreements are signed on different dates, then there may be one or more closings of the offering. However, there will be a single price set for the shares of Series F Preferred Stock and a single price set for the exercise price of the warrants, even if there are multiple purchase agreements signed on different dates. A closing will take place 20 trading days after execution of a purchase agreement. We currently anticipate that all purchase agreements will be signed within two days of the date that our registration statement is declared effective by the SEC, which would mean that the closing(s) of the sale of the Series F Preferred Stock to take place on or about May , 2010.

On execution of the purchase agreement the purchasers will be committed to purchase the Series F Preferred Stock, and we will issue shares of common stock representing 5% of the investment as a commitment fee and the warrants to the purchaser(s). Other than upon execution of a purchase agreement, we will not issue any additional shares of common stock, except pursuant to any exercise of a warrant, and we will not issue any additional warrants. On the closing date under the purchase agreement, we will receive the aggregate purchase price of the preferred stock being sold by us, and we will cause certificates for the preferred stock sold to be delivered to the purchaser(s).

LEGAL MATTERS

The validity of the issuance of securities offered by this prospectus will be passed upon for us by DLA Piper LLP (US), San Diego, California.

EXPERTS

The consolidated financial statements and schedule of International Stem Cell Corporation as of December 31, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity (deficit) and comprehensive loss and cash flows for the years then ended and for the period from inception (August 17, 2001) through December 31, 2009 have been incorporated by reference herein and in the registration statement in reliance upon the report of Vasquez & Company LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. Copies of our reports, proxy statements and other information may be inspected and copied at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Copies of these materials can also be obtained by mail at prescribed rates from the Public Reference Room of the SEC, 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding International Stem Cell Corporation and other issuers that file electronically with the SEC. The address of the SEC internet site is www.sec.gov. In addition, we make available on or through our Internet site copies of these reports as soon as reasonably practicable after we electronically file or furnish them to the SEC. Our Internet site can be found at www.internationalstemcell.com.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

This prospectus is part of a registration statement on Form S-1 filed by us with the SEC. This prospectus does not contain all of the information set forth in the registration statement, certain parts of which are omitted in accordance with the rules and regulations of the SEC. Statements contained in this prospectus as to the contents of any contract or other document referred to are not necessarily complete and in each instance reference is made to the copy of that contract or other document filed as an exhibit to the registration statement. For further information about us and the securities offered by this prospectus, we refer you to the registration statement and its exhibits and schedules which may be obtained as described herein.

The SEC allows us to "incorporate by reference" the information contained in certain documents that we have filed with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. We hereby incorporate by reference the documents listed below (File No. 0-51891):

- our annual report on Form 10-K for the fiscal year ended December 31, 2009;
- our proxy statement on Schedule 14A for our 2010 annual meeting, filed on March 30, 2010;
- our current report on Form 8-K filed on February 3, 2010;
- our current report on Form 8-K filed on May 3, 2010; and
- the description of our common stock contained in our registration statement on Forms 10-SB filed under the Securities Exchange Act on April 4, 2006, including any amendment or reports filed for the purpose of updating such descriptions.

Each person to whom a prospectus is delivered will receive a copy of all of the information that has been incorporated by reference in this prospectus but not delivered with the prospectus. You may obtain copies of these filings, at no cost, through the "Investor Relations" section of our website (www.internationalstemcell.com), and you may request copies of these filings, at no cost, by writing or telephoning us at:

International Stem Cell Corporation
Attention: Lisa Bzenich
2595 Jason Court
Oceanside, CA 92056
Telephone: (760) 940-6383

The information contained on our website is not a part of this prospectus.

PART II
INFORMATION NOT REQUIRED IN THE PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the fees and expenses incurred or expected to be incurred by International Stem Cell Corporation in connection with the issuance and distribution of the securities being registered hereby, other than underwriting discounts and commissions. All of the amounts shown are estimated except the SEC registration fee. Estimated fees and expenses can only reflect information that is known at the time of filing this registration statement and are subject to future contingencies, including additional expenses for future offerings.

Securities and Exchange Commission registration fee	$ 1,712
Transfer agent's fees and expenses	2,500
Printing and engraving expenses	15,000
Legal fees and expenses	90,000
Accounting fees and expenses	10,000
Miscellaneous expenses	788
Total	$ 120,000

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act.

As permitted by the Delaware General Corporation Law, the Company's certificate of incorporation includes a provision to indemnify any and all persons it has power to indemnify under such law from and against any and all of the expenses, liabilities or other matters referred to in or covered by such law. In addition, the Company's certificate of incorporation includes a provision whereby the Company shall indemnify each of the Company's directors and officer in each and every situation where, under the Delaware General Corporation law the Company is not obligated, but is permitted or empowered to make such indemnification, except as otherwise set forth in the Company's bylaws. The Company's certificate of incorporation also includes a provision which eliminates the personal liabilities of its directors for monetary damages for breach of fiduciary duty as a director, except for liability (1) for any breach of the director's duty of loyalty to the Company or its stockholders, (2) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (3) under Section 174 of the Delaware General Corporation Law or (4) for any transaction from which the director derived an improper personal benefit.

As permitted by the Delaware General Corporation Law, the Company's bylaws provide that (1) it is required to indemnify its directors to the fullest extent permitted by the Delaware General Corporation Law and may, if and to the extent authorized by the Board of Directors, indemnify its officers, employees or agents and any other person whom its has the power to indemnify against liability, reasonable expense or other matters and (2) the Company shall advance expenses to its directors and officer who are entitled to indemnification, as incurred, to its directors and officers in connection with a legal proceeding, subject to limited exceptions.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES

During the three-year period preceding the date of the filing of this registration statement, we have issued securities in the transactions described below without registration under the Securities Act.

(a) Issuance of stock for cash or services.

These securities were offered and sold by us in reliance upon exemptions from the registration statement requirements provided by Section 4(2) of the Securities Act or Regulation D under the Securities Act as transactions by an issuer not involving a public offering.

May 2008, we issued a $1 million convertible note and a warrant to purchase 2,000,000 shares of common stock to an accredited investor. From February through May 2009, we issued a total of 5,025,531 shares of common stock upon conversion of a portion of the note and conversion of the warrant. The issuances upon conversion of these securities were exempt under Section 3(a)(9) of the Securities Act.

From January 1, 2008 to January 14, 2008, the Company issued to certain accredited investors 1,000,000 shares of Series A Preferred Stock, for an aggregate of $1,000,000. In addition there were warrants issued for 2,000,000 shares of common stock at an exercise price of $0.25.

From February 15, 2008 to March 24, 2008, the Company issued to certain accredited investors 550,000 shares of Series B Preferred Stock, for an aggregate of $550,000. In addition there were warrants issued for 1,100,000 shares of common stock at an exercise price of $0.25.

From August 25, 2008 to September 19, 2008, the Company issued to certain accredited investors 2,000,000 shares of Series C Preferred Stock, for an aggregate of $2,000,000.

From December 29, 2008 to June 30, 2009, the Company issued to certain accredited investors 40 shares of Series D Preferred Stock, for an aggregate of $4,000,000.

On April 17, 2007, as consideration for its services as consultant, the Company issued 1,000,000 shares of the Company's common stock to Capital Group Communications, Inc. for services rendered from September 1, 2006 to August 31, 2007.

On August 6, 2007, as consideration for its services as consultant, the Company issued 350,000 shares of the Company's common stock to Corporate Capital Advisors, Inc. 315,000 shares and to Richardson and Patel, LLP, 35,000 shares for services rendered in connection with the reverse merger.

On March 24, 2008, as consideration for its services as consultant, the Company issued 20,000 shares of the Company's common stock to Ibis Consulting Group LLC. for services rendered.

On May 13, 2008, as consideration for its services as consultant, the Company issued 250,000 shares of the Company's common stock to Media Capital Partners.

On July 2, 2008, as consideration for its services as consultant, the Company issued 100,000 shares of the Company's common stock to InCap Group, Inc.

In December 2008, we issued 2,121,800 shares to seven persons who were directors, executive officers or members of senior management in recognition of the fact that these individuals had previously agreed to waive some or all of the cash compensation otherwise payable to them.

On February 16, 2009, as consideration for its services as consultant, the Company issued 20,000 shares of the Company's common stock to PSEO – Pam Saunders.

From April 2009 through June 2009, we issued a total of 1,170,329 shares of common stock to five accredited investors.

On July 7, 2009, as part of the Series E Preferred Stock Purchase Agreement, the Company issued 290,689 shares of common stock and a warrant to Optimus Capital Partners.

From July 1, 2009 through December 31, 2009, as part of a Series E Preferred Stock Purchase Agreement, the Company issued shares of Series E Preferred Stock and warrants to purchase a total of 4,127,084 shares of common stock (all of which warrants were exercised) for an aggregate of $2,000,000.

From July 1, 2009 through December 31, 2009, the Company issued 352,564 shares of common stock to two persons for an aggregate of $250,000.

From July 1, 2009 through December 31, 2009, as consideration for consulting services, the Company issued 280,000 shares of common stock to three persons.

(b) Issuance of stock on conversion of preferred stock.

From the beginning of 2009 through February 2010, the holders of a total of 650,004 shares of Series A Preferred Stock, Series B Preferred Stock and Series D Preferred Stock converted their shares to a total of 4,126,800 shares of common stock. These issuances were exempt pursuant to Section 3(a)(9) of the Securities Act.

(c) Issuance of stock for assets.

In July 2009, we issued a total of 400,000 shares of common stock to 3 accredited investors in return for patent and other intellectual property rights. This transaction was exempt from registration under Section 4(2) of the Securities Act as a transaction not involving a public offering.

(d) Issuances upon conversion or exercise of warrants.

From April 2009 through February 2010, we issued a total of 9,784,752 shares of common stock upon exercise or conversion of previously issued warrants. The issuances upon conversion were exempt from registration pursuant to Section 3(a)(9) of the Securities Act and the issuance upon exercise were exempt from registration pursuant to Section 4(2) of the Securities Act.

ITEM 16. EXHIBITS

A list of exhibits filed herewith is contained in the exhibit index that immediately precedes such exhibits and is incorporated herein by reference.

ITEM 17. UNDERTAKINGS

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;

(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;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3 or Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, 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.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to

Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement 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.

Insofar as indemnification for liabilities arising under the Securities Act 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 Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the 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 Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) or under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus 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.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Oceanside, California on May 4, 2010.

INTERNATIONAL STEM CELL CORPORATION

By: /s/ Andrey Semechkin
Andrey Semechkin
Chief Executive Officer

Pursuant to the requirements of the Securities Act, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature:	Capacity:	Date:
/s/ Andrey Semechkin Andrey Semechkin	Chief Executive Officer and Director (Principal Executive Officer)	May 4, 2010
/s/ Ray Wood Ray Wood	Chief Financial Officer (Principal Financial and Accounting Officer)	May 4, 2010
/s/ Kenneth C. Aldrich* Kenneth C. Aldrich	Chairman of the Board	May 4, 2010
/s/ Jeffrey D. Janus* Jeffrey D. Janus	President and Director	May 4, 2010
/s/ Paul V. Maier* Paul V. Maier	Director	May 4, 2010
/s/ Ruslan Semechkin* Ruslan Semechkin	Director	May 4, 2010
/s/ Donald A. Wright* Donald A. Wright	Director	May 4, 2010
*By: /s/ Ray Wood Ray Wood, Attorney-In-Fact		May 4, 2010

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EXHIBIT INDEX

Exhibit Number	Description
3.1	Certificate of Incorporation (incorporated by reference to Exhibit 3.4 of the issuer's Form 10-SB filed on April 4, 2006).
3.2	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Issuer's Preliminary Information Statement on Form 14C filed on December 29, 2006).
3.3	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 of the Issuer's Preliminary Information Statement on Form 14C filed on December 29, 2006).
4.1	Form of Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 of the Issuer's Form 10-KSB for the year ended December 31, 2006).
4.2	Certification of Designation of Series A Preferred Stock (incorporated by reference to Exhibit 4.1 of the Issuer's Form 8-K filed on January 17, 2008).
4.3	Certification of Designation of Series B Preferred Stock (incorporated by reference to Exhibit 4.1 of the Issuer's Form 8-K filed on May 12, 2008).
4.4	Certification of Designation of Series C Preferred Stock (incorporated by reference to Exhibit 10.2 of the Issuer's Form 8-K filed on August 21, 2008).
4.5	Certification of Designation of Series D Preferred Stock (incorporated by reference to Exhibit 10.2 of the Issuer's Form 8-K filed on January 5, 2009).
4.6	Certification of Designation of Series E Preferred Stock (incorporated by reference to Exhibit 10.2 of the Issuer's Form 8-K filed on July 6, 2009).
4.7	Warrant Certificate for warrants in connection with Series A Preferred Stock (incorporated by reference to Exhibit 10.2 of the Issuer's Form 8-K filed on January 17, 2008).
4.8	Warrant Certificate for warrants in connection with Series B Preferred Stock (incorporated by reference to Exhibit 10.2 of the Issuer's Form 8-K filed on May 12, 2008).
4.9	Form of Preferred Stock Purchase Agreement (previously filed).
4.10	Form of warrant for common stock (previously filed).
4.11	Certificate of Designation of Series F Preferred Stock (previously filed).
5.1	Opinion of DLA Piper LLP (US).
10.1	Employment Agreement, dated December 1, 2006, by and between International Stem Cell and Kenneth C. Aldrich (incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on December 29, 2006).
10.2	Employment Agreement, dated October 31, 2006, by and between International Stem Cell and Jeffrey Janus (incorporated by reference to Exhibit 10.4 of the Registrant's Form 8-K filed on December 29, 2006).
10.3	First Amendment to Exclusive License Agreement (ACT IP), dated as of August 1, 2005, by and between Advanced Cell, Inc. and Lifeline (incorporated by reference to Exhibit 10.9 of the Registrant's Form 8-K filed on December 29, 2006).
10.4	First Amendment to Exclusive License Agreement (UMass IP) dated as of August 1, 2005, by and between Advanced Cell, Inc. and Lifeline (incorporated by reference to Exhibit 10.10 of the Registrant's Form 8-K filed on December 29, 2006).
10.5	First Amendment to Exclusive License Agreement (Infigen IP) dated as of August 1, 2005, by and between Advanced Cell, Inc. and Lifeline (incorporated by reference to Exhibit 10.11 of the Registrant's Form 8-K filed on December 29, 2006).
10.6	Exclusive License Agreement (Infigen IP), dated as of May 14, 2004, by and between Advanced Cell Technology, Inc and PacGen Cellco, LLC (predecessor company of Lifeline) (incorporated by reference to Exhibit 10.12 of the Registrant's Form 8-K filed on December 29, 2006).

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Exhibit Number	Description
10.7	Exclusive License Agreement (ACT IP), dated as of May 14, 2004, by and between Advanced Cell Technology, Inc. and PacGen Cellco, LLC (predecessor company of Lifeline) (incorporated by reference to Exhibit 10.13 of the Registrant's Form 8-K filed on December 29, 2006).
10.8	Exclusive License Agreement (UMass IP), dated as of May 14, 2004, by and between Advanced Cell Technology, Inc. and PacGen Cellco, LLC (predecessor company of Lifeline) (incorporated by reference to Exhibit 10.14 of the Registrant's Form 8-K filed on December 29, 2006).
10.9	International Stem Cell Corporation 2006 Equity Participation Plan (incorporated by reference to Exhibit 10.15 of the Registrant's Form 8-K filed on December 29, 2006).
10.10	Securities Purchase Agreement of May 14, 2008 for sale of OID Senior Secured Convertible Note and Warrants (incorporated by reference to Exhibit 10.1 of the Issuers Form 8-K filed on May 16, 2008).
10.11	OID Senior Secured Convertible note (incorporated by reference to Exhibit 10.2 of the Issuers Form 8-K filed on May 16, 2008).
10.12	Common Stock Purchase Warrant issued with OID Senior Convertible Note (incorporated by reference to Exhibit 10.3 of the Issuers Form 8-K filed on May 16, 2008).
10.13	Multiple Advance Convertible Note (incorporated by reference to Exhibit 10.1 of the Issuer's Form 8-K filed on August 18, 2008).
10.14	Common Stock Purchase Warrant issued with Multiple Advance Convertible Note (incorporated by reference to Exhibit 10.2 of the Issuer's Form 8-K filed on August 18, 2008).
10.15	Employment Agreement with Andrey Semechkin (incorporated by reference to Exhibit 10.4 of the Issuer's Form 8-K filed on January 5, 2009).
10.16	Employment Agreement with Ruslan Semechkin (incorporated by reference to Exhibit 10.5 of the Issuer's Form 8-K filed on January 5, 2009).
10.17	Preferred Stock Purchase Agreement, dated June 30, 2009 (incorporated by reference to Exhibit 10.1 of the Issuer's Form 8-K filed on July 6, 2009).
10.18	Employment Agreement with Brian Lundstrom dated November 5, 2009 (incorporated by reference to Exhibit 10.18 of the Issuer's Form 10-K filed on March 23, 2010).
10.19	Form of Stock Option Agreement for stock options granted outside of the 2006 Equity Participation Plan (incorporated by reference to Exhibit 10.19 of the Issuer's Form 10-K filed on March 23, 2010).
21.1	Subsidiaries of the Registrant (incorporated by reference to Exhibit 21.1 of the Registrant's Form 8-K filed on December 29, 2006).
23.1	Consent of Vasquez & Company LLP.
23.2	Consent of DLA Piper LLP (US) (included in Exhibit 5.1).
24.1	Power of Attorney (previously filed).

Exhibit 5.1

DLA Piper LLP (US)
4365 Executive Drive, Suite 1100
San Diego, California 92121-2133
www.dlapiper.com

T 858.677.1400
F 858.677.1401

May 4, 2010

International Stem Cell Corporation
2595 Jason Court
Oceanside, CA 92056

Ladies and Gentlemen:

We have acted as counsel to International Stem Cell Corporation, a Delaware corporation (the "***Company***"), in connection with the filing of registration statement on Form S-1 filed on January 27, 2010, as subsequently amended on March 26, 2010, April 28, 2010 and May 4, 2010 (the "***Registration Statement***"), under the Securities Act of 1933, as amended (the "***Securities Act***"). The Registration Statement relates to the Company's:

(i) common stock, $0.001 par value per share (the "***Common Stock***");

(ii) warrants representing rights to purchase Common Stock (the "***Warrants***", and the shares issuable upon exercise thereof, the "***Warrant Shares***"); and

(iii) preferred stock, $0.001 par value per share (the "***Preferred Stock***").

Collectively, the Common Stock and the Preferred Stock are referred to herein as the "***Shares***") and the Shares, Warrant Shares and Warrants are, collectively, referred to herein as the "***Securities***".

In rendering the opinions set forth below, we have assumed that (i) all information contained in all documents reviewed by us is true and correct; (ii) all signatures on all documents examined by us are genuine; (iii) all documents submitted to us as originals are authentic and all documents submitted to us as copies conform to the originals of those documents; (iv) each natural person signing any document reviewed by us had the legal capacity to do so; and (v) the certificates representing the Securities will be duly executed and delivered.

We have examined the Registration Statement, including the exhibits thereto, and such other documents, corporate records, and instruments and have examined such laws and regulations as we have deemed necessary for purposes of rendering the opinions set forth herein. Based upon such examination and subject to the further provisions hereof, we are of the following opinion:

1. The Shares, when issued, sold and delivered in the manner and for the consideration set forth in the Registration Statement and the purchase agreement to be entered into by and between the Company and the purchasers of the Shares, will be validly issued, fully paid and non-assessable; and

2. The Warrants will constitute valid and legally binding obligations of the Company and the Warrant Shares, if and when issued, paid for and delivered in compliance with the terms of the applicable Warrants pursuant to which the Warrant Shares are to be issued, will be validly issued, fully paid and nonassessable.

The foregoing opinions are qualified to the extent that the enforceability of any document, instrument or the Securities may be limited by or subject to bankruptcy, insolvency, fraudulent transfer or conveyance, reorganization, moratorium or other similar laws relating to or affecting creditors' rights generally, and general equitable or public policy principles.

In providing this opinion, we have relied as to certain matters on information obtained from public officials and officers of the Company.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and the reference to us under the caption "Legal Matters" in the prospectus included in the Registration Statement. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Securities and Exchange Commission promulgated thereunder.

This opinion letter is given to you solely for use in connection with the offer and sale of the Securities while the Registration Statement is in effect and is not to be relied upon for any other purpose. Our opinion is expressly limited to the matters set forth above, and we render no opinion, whether by implication or otherwise, as to any other matters relating to the Company, the Securities or the Registration Statement.

Very truly yours,

/s/ DLA Piper LLP (US)

DLA Piper LLP (US)

Exhibit 23.1

VASQUEZ & COMPANY LLP
CERTIFIED PUBLIC ACCOUNTANTS AND BUSINESS CONSULTANTS

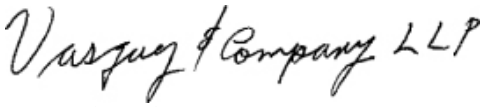
801 South Grand Avenue, Suite 400 — Los Angeles, CA 90017-4646 — Ph. (213) 629-9094 — Fax (213) 996-4242 — www.vasquezcpa.com

Consent of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
International Stem Cell Corporation and Subsidiaries
Oceanside, California

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 22, 2010, relating to the consolidated financial statements of International Stem Cell Corporation and Subsidiaries, which appears on Page F-2 in the Company's Annual Report on Form 10-K for the year ended December 31, 2009 which is contained in that Prospectus. Our report includes an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.



Los Angeles, California
May 3, 2010

DLA Piper LLP (US)
4365 Executive Drive, Suite 1100
San Diego, California 92121-2133
www.dlapiper.com

Douglas J. Rein
doug.rein@dlapiper.com
T 858.677.1443
F 858.638.5043

VIA EDGAR

May 4, 2010

Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Re: International Stem Cell Corporation
Registration Statement on Form S-1
File No. 333-164540

Ladies and Gentleman:

On behalf of International Stem Cell Corporation (the "**Company**"), we are transmitting herewith for filing with the Securities and Exchange Commission (the "**Commission**"), Amendment No. 3 to the Company's Registration Statement (No. 333-164540) on Form S-1 (the "**Registration Statement**"). The Company has revised the Registration Statement to update appropriate disclosures and to respond to comments provided by the staff of the Commission.

We hereby submit the following responses with respect to the comments from the staff.

1. The Company has revised the cover page of the prospectus to include the number of shares expected to be sold (which is based on an assumed price).
2. The Company has revised the "Plan of Distribution" section of the prospectus to clarify various aspects of the offering, including (i) that there will be a single price set for the shares of Series F Preferred Stock and a single price set as the exercise price for the warrants, (ii) the Company's expectation that all purchase agreements will be signed within two days of the date of effectiveness of the Registration Statement, (iii) the Company's expectation of the anticipated closing date, (iv) that the warrants and shares of common stock issued upon execution of the purchase agreement(s) are the only shares of common stock and warrants to be issued (other than any issuances of common stock upon exercise of a warrant), and (v) that the investment decision is being made by the purchaser(s) upon execution of the purchase agreement.
3. As requested, we have revised the opinion included as Exhibit 5.1.

4. Finally, you have requested our views with respect to the treatment of this offering under Rule 415, and in particular whether it is an "at the market offering" or a "delayed offering" that would be the equivalent of shelf registration statement. As defined in Rule 415(a)(4), the term "at the market offering" means an offering of equity securities into an existing trading market for outstanding shares of the same class at other than a fixed price (emphasis added). In this offering, the purchase price for the shares of Preferred Stock (which includes the shares of common stock issuable as a commitment fee and the warrants) is fixed and the exercise price of the warrants is also fixed. Therefore, this is not an "at the market offering." Similarly, because the offering of these securities will be commenced promptly and will continue for only a period of a few days, this is a continuous offering as opposed to a delayed or episodic offering. As reflected in the revised "Plan of Distribution" section of the prospectus, the binding agreement(s) to purchase shares of Preferred Stock will be signed within a few days of the effective date of the Registration Statement. This offering will not continue more than a few days and it will not involve periodic take downs of portions of the shares covered by the Registration Statement in a manner that would be contemplated by a typical shelf registration statement.

If you have any questions or comments regarding this letter, please contact me at (858) 677-1443.

Very truly yours,

DLA PIPER LLP (US)

/s/ Douglas J. Rein
Douglas J. Rein

cc: Ray Wood, International Stem Cell Corporation
Michael Rosenthall, SEC
Matthew Leivo