INOVIO BIOMEDICAL CORP
Form S-8
May 14, 2007

As Filed with the Securities and Exchange Commission on May 14, 2007

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

INOVIO BIOMEDICAL CORPORATION

(Exact Name of Registrant as Specified in its Charter)

Delaware	**33-0969592**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

11494 Sorrento Valley Road

San Diego, California 92121-1318

(858) 597-6006

(Address of Principal Executive Offices and Zip Code)

INOVIO BIOMEDICAL CORPORATION 2007 OMNIBUS INCENTIVE PLAN

(Full Title of the Plans)

Avtar Dhillon, M.D.

Chief Executive Officer and President

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CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered (1)		Proposed maximum offering price per share(2)	Proposed maximum aggregate offering price	Amount of registration fee	
Common Stock, par value $0.001 per share (3)	629,006		$ 3.795	$ 2,387,078	$ 73.28	
Common Stock, par value $0.001 per share (3)	120,994	(4)	$ 3.795	$ 459,172	$ 14.10	
					$ 87.38	(5)

(1) This Registration Statement also registers additional securities to be offered or issued upon adjustments or changes made to registered securities by reason of any stock splits, stock dividends or similar transactions as permitted by Rule 416(a) and Rule 416(b) under the Securities Act of 1933, as amended (the Securities Act).

(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) and (h). The fee is calculated on the basis of the average of the high and low prices for the Registrant s Common Stock reported on the American Stock Exchange on May 3, 2007 for the restricted stock grants made effective as of May 4, 2007, and the average of the high and low prices for the Registrant s Common Stock reported on the American Stock Exchange on May 10, 2007 for those awards not yet granted.

(3) Each share of common stock issuable pursuant to the Plan includes an associated right to purchase common stock in accordance with registrant s Amended and Restated Shareholder Rights Agreement.

(4) In accordance with Instruction E of Form S-8, in addition to the 629,006 new shares of the Registrant s common stock being registered hereunder, the Registrant hereby carries forward, and this Registration Statement shall be deemed to apply to 120,994 shares of the Registrant s common stock previously registered, but not used, under a Registration Statement on Form S-8 (File No. 333-136126) filed by the Registrant on July 28, 2006 (the 2000 Amended Plan Registration Statement) registering shares of the Registrant s common stock to be offered under the Registrant s Amended 2000 Stock Option Plan. In conjunction with the filing of this Registration Statement, the Registrant is filing a Post-Effective Amendment to the 2000 Amended Plan Registration Statement acknowledging the transfer of shares to this Registration Statement.

(5) Aggregate registration fees of $220.46 were paid in connection with the shares of the Registrant s common stock registered under the 2000 Amended Plan Registration Statement on July 28, 2006, of which $26.28 is applied hereto. See footnote 4. As a result, the total registration fee due and payable with this registration statement is $61.10.

EXPLANATORY NOTE

Inovio Biomedical Corporation (the Company) has prepared this Registration Statement in accordance with the requirements of Form S-8 under the Securities Act of 1933, as amended (the 1933 Act), to register shares of its Common Stock that may be issued pursuant to awards granted under the Inovio Biomedical Corporation 2007 Omnibus Incentive Plan (the 2007 Plan). This registration statement also includes a reoffer prospectus. The Reoffer Prospectus may be utilized for reofferings and resales on a continuous or a delayed basis in the future of up to 165,000 shares of Common Stock that constitute restricted securities which were granted to the selling stockholders under the 2007 Plan prior to the filing of this registration statement. The reoffer prospectus does not contain all of the information included in the registration statement, certain items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the Securities and Exchange Commission. Statements contained in this reoffer prospectus as to the contents of any agreement, instrument or other document referred to are not necessarily complete. With respect to each such agreement, instrument or other document filed as an exhibit to the registration statement, we refer you to the exhibit for a more complete description of the matter involved, and each such statement shall be deemed qualified in its entirety by this reference.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing information specified in Part I of Form S-8 are being separately provided to Inovio Biomedical Corporation s (the Registrant) employees, officers, directors, consultants and advisors as specified by Rule 428(b)(1) of the Securities Act of 1933, as amended.

INOVIO BIOMEDICAL CORPORATION

165,000 SHARES OF COMMON STOCK

REOFFER PROSPECTUS

This prospectus relates to 165,000 shares of common stock of Inovio Biomedical Corporation that may be sold from time to time by the selling stockholders named in this prospectus beginning on page 17. We originally issued the shares in connection with grants made under our 2007 Omnibus Incentive Plan. The selling stockholders may offer their shares through public or private transactions, on or off the American Stock Exchange, at prevailing market prices, or at privately negotiated prices. For details of how the selling stockholders may offer their Inovio common stock, please see the section of this prospectus called Plan of Distribution beginning on page 20. We will not receive any proceeds from the sales of shares by the selling stockholders.

Our common stock is traded on the American Stock Exchange under the symbol INO. On May 10, 2007, the last reported sale price for our common stock on the American Stock Exchange was $3.75 per share.

The securities offered by this prospectus involve a high degree of risk. See Risk Factors beginning on page 4.

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.

This prospectus is dated May 14, 2007

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You should rely only on the information contained or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized anyone to provide you with information different from that contained or incorporated by reference into this prospectus. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus. You must not rely on any unauthorized information or representation. You should assume that the information contained in this prospectus or any prospectus supplement is accurate only as of the date on the front of the document and that any information contained in any document we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any prospectus supplement or any sale of a security. These documents are not an offer to sell or a solicitation of an offer to buy these shares of common stock in any circumstances under which the offer or solicitation is unlawful.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents and information incorporated by reference in this prospectus, such as under the heading About Inovio in this prospectus and from Item 1. Business and Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended December 31, 2006, and Item 2. Management s Discussion and Analysis of Financial Condition and Results of Operations in our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2007, include forward-looking statements within the meaning of section 27A of the Securities Act of 1933, as amended and section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include the information concerning our possible or assumed future operating results, business strategies, financing plans, competitive position, industry environment, the anticipated impact on our business and financial results of recent and future acquisitions, the effects of competition, our ability to produce new products in a cost-effective manner and estimates relating to our industry. Forward-looking statements may be identified by the use of words like believes, intends, expects, may, will, should or anticip the negative equivalents of those words or comparable terminology, and by discussions of strategies that involve risks and uncertainties.

Actual results may differ materially from those expressed or implied by forward-looking statements for a number of reasons, including those appearing elsewhere in this prospectus under the heading Risk Factors. In addition, we base forward-looking statements on assumptions about future events, which may not prove to be accurate. In light of these risks, uncertainties and assumptions, you should be aware that the forward-looking events described in this prospectus and the documents incorporated by reference in this prospectus may not occur.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this reoffer prospectus. This summary is not complete and may not contain all of the information that you should consider before investing in the securities.

We have filed a registration statement on Form S-8 with the Securities and Exchange Commission registering the shares of common stock the selling stockholders are offering by this prospectus. This prospectus does not include all of the information contained in the registration statement and its exhibits. We have included all material terms of the registration statement and the related exhibits that are referred to in this prospectus. You should refer to the registration statement and its exhibits for additional information.

ABOUT INOVIO

We are a San Diego-based biomedical company focused on commercializing our Selective Electrochemical Tumor Ablation (SECTA) therapy and development of multiple DNA-based immunotherapies using our delivery platform for gene-based treatments.

SECTA is our local ablation therapy for solid tumors designed to selectively kill cancerous cells and minimize cosmetic or functional impacts to predominantly healthy tissue typically treated around a tumor. Our SECTA therapy is in Phase III clinical trials in the United States and Europe for the treatment of recurrent head and neck cancer; and in Phase I/II clinical trials for the treatment of recurrent breast cancer. In addition, we are conducting pre-marketing studies for head and neck and skin cancers to support the commercialization of our SECTA system in Europe. Prior to commercial sales of our SECTA system in the European Union (EU), we were required to, and already have obtained, a CE Mark which is recognized internationally as a symbol of quality and compliance. Completion of the European pre-marketing studies will provide pharmacoeconomic data which we can use to seek reimbursement, as well as provide additional efficacy and safety data and local experience with physicians who are considered thought leaders in Europe. This pre-marketing data is a vital component for the European commercial launch of our SECTA system and will represent an important milestone for us.

In addition, as part of our MedPulser® product line we have been developing devices for the delivery of DNA for vaccinations and gene therapy. The flagship of our development efforts involve licensing agreements with Merck & Co., Inc., Wyeth Pharmaceuticals and Vical, Inc., in which these companies are supporting the development and registration of their therapies using our devices. In November 2006, we executed a licensing agreement with VGX Pharmaceuticals (VGX) for a worldwide non-exclusive license to our DNA Electroporation Delivery Technology for intratumoral delivery of a proprietary gene to control the growth of melanoma and other cancers using an HIV sequence. We also have a collaborative commercialization agreement with Tripep AS to co-develop a Hepatitis C therapeutic vaccine (HCV). Other activities include Phase I trials at the H. Lee Moffitt Cancer Center and at the University of Southampton. As a result of our partnerships in this area, our DNA Electroporation Delivery Technology is currently being evaluated in four DNA-based immunotherapies in Phase I clinical studies, and in multiple pre-clinical studies.

We are developing human therapeutic applications of electroporation, which uses brief and controlled electrical pulses to increase both cellular uptake of a useful biopharmaceutical and, in the case of gene-based treatments, levels of gene expression.

We have an extensive patent portfolio encompassing electroporation, covering a range of apparatus, methodologies, conditions, and applications including oncology, gene delivery, vascular, transdermal and ex vivo.

Our principal executive offices are located at 11494 Sorrento Valley Road, San Diego, California 92121-1318, and our telephone number is (858) 597-6006. Our website address is www.inovio.com. Our American Stock Exchange ticker symbol is INO.

RISK FACTORS

You should carefully consider and evaluate all of the information in this Reoffer Prospectus in combination with the more detailed description of our business in our annual report on Form 10-K for the year ended December 31, 2006, which we filed with the Securities and Exchange Commission on March 16, 2007, and in our quarterly report on Form 10-Q for the three months ended March 31, 2007 we filed with the Securities and Exchange Commission on May 9, 2007, for a more complete understanding of the risks associated with an investment in our securities. The following risk factors are not the only risks that could potentially face our company. Additional issues not now known to us or that we may currently deem immaterial may also impair our ability to commercialize our technology and the therapies we believe are derivable therefrom resulting in our business outlook being compromised and the trading price of our common stock declining.

We Have a History of Losses, We Expect to Continue to Incur Losses and We May Not Achieve or Maintain Profitability. As of March 31, 2007, we had an accumulated deficit of $132,840,637. We have operated at a loss since 1994, and we expect this to continue for some time. The amount of the accumulated deficit will continue to increase, as it will be expensive to continue clinical, research and development efforts. If these activities are successful and if we receive approval from the FDA to market equipment, then even more funding will be required to market and sell the equipment. The outcome of these matters cannot be predicted at this time. We are evaluating potential partnerships as an additional way to fund operations, but there is no assurance we will be able to secure partnerships that will provide the required funding, if at all. We will continue to rely on outside sources of financing to meet our capital needs beyond next year.

Further, there can be no assurance, assuming we successfully raise additional funds, that we will achieve positive cash flow. If we are not able to secure additional funding, we will be required to further scale back our research and development programs, preclinical studies and clinical trials, general, and administrative activities and may not be able to continue in business. Including the cash proceeds received from financings, various licensing payments, the exercise of employee stock options and investor warrants, we believe we have sufficient funds to fund operations through the beginning of the third quarter of 2008.

Our Ability to Utilize Our Net Operating Losses and Certain Other Tax Attributes May Be Limited. As disclosed in our annual report on Form 10-K for the 2006 fiscal year, we have significant net operating loss (NOL) carryforwards for both federal and state income tax purposes. We also have federal research tax carryforwards which begin to expire at the end of 2007 unless previously utilized. Under Section 382 of the Internal Revenue Code, if a corporation undergoes an ownership change, the corporation s ability to use its pre-change NOLs, research tax credit carryforwards and other pre-change tax attributes to offset its post-change income may be limited. An ownership change is generally defined as a greater than 50% change in its equity ownership by value over a three-year period. We believe that there are built-in gains inherent in the value of our assets that, when recognized, may increase this annual limitation during the five-year period from the date of an ownership change. We are currently assessing the extent of these built-in gains. Any limitation on our net operating loss carryforwards that could be used to offset post-ownership change in taxable income would adversely affect our liquidity and cash flow, as and when we become profitable.

A Small Number of Licensing Partners Account for a Substantial Portion of Our Revenue in Each Period and Our Results of Operations and Financial Condition Could Suffer if We Lose These Licensing Partners or Fail to Add Additional Licensing Partners in the Future. We derive a significant portion of our revenue from a limited number of licensing partners in each period. Accordingly, if we fail to sign additional future contracts with major licensing partners, if a licensing contract is delayed or deferred, or if an existing licensing contract expires or is cancelled and we fail to replace the contract with new business, our revenue could be adversely affected. Until commercialization of our Medpulser® Electroporation Therapy System, we expect that a limited number of licensing partners will continue to account for a substantial portion of our revenue in each quarter in the foreseeable future. During the three months ended March 31, 2007, one licensing partner, Merck, accounted for approximately 78% of our consolidated revenue. During the three months ended March 31, 2006, Merck accounted for approximately 60% of our consolidated revenue.

If We Cannot Maintain Our Existing Corporate and Academic Arrangements and Enter into New Arrangements, We May Be Unable to Develop Products Effectively, or at All. Our strategy for the research, development and commercialization of our product candidates may result in us entering into contractual arrangements with corporate collaborators, academic institutions

and others. We have entered into sponsored research, license and/or collaborative arrangements with several entities, including Merck, Wyeth, Vical, Valentis, the U.S. Navy, Chiron and the University of South Florida, as well as numerous other institutions that conduct clinical trials work or perform pre-clinical research for us. Our success depends upon our collaborative partners performing their responsibilities under these arrangements and complying with the regulations and requirements governing clinical trials. We cannot control the amount and timing of resources our collaborative partners devote to our research and testing programs or product candidates, or their compliance

with regulatory requirements which can vary because of factors unrelated to such programs or product candidates. These relationships may in some cases be terminated at the discretion of our collaborative partners with only limited notice to us.

Merck can terminate its May 2004 license and collaboration agreement with us at any time in its sole discretion, without cause, by giving ninety days advance notice to us. If this agreement is terminated by Merck at any time during the first two years of the collaboration term, then Merck shall continue, for a six-month period beginning on the date of such termination, to make payments previously approved by the project s joint collaboration committee in relation to scientists and outside contractors engaged by us in connection with the agreement. During the three months ended March 31, 2007, Merck accounted for approximately 78% of our consolidated revenue. During the three months ended March 31, 2006, Merck accounted for approximately 60% of our consolidated revenue.

We may not be able to maintain our existing arrangements, enter into new arrangements or negotiate current or new arrangements on acceptable terms, if at all. Some of our collaborative partners may also be researching competing technologies independently from us to treat the diseases targeted by our collaborative programs.

Changes in Foreign Exchange Rates May Affect Our Future Operating Results. In January 2005, we acquired Inovio AS, a Norwegian company. During the three months ended March 31, 2007, Inovio AS contributed approximately $2,309 to our revenue, which amounted to approximately 0.5% of our total revenue. Inovio AS conducts its operations primarily in foreign currencies, including the Euro, Norwegian Kroner and Swedish Krona. In September 2006, we established Inovio Asia Pte. Ltd., a company incorporated in the Republic of Singapore, which conducts its operations primarily in Singapore dollars. Fluctuation in the values of these foreign currencies relative to the U.S. dollar will affect our financial results which are reported in U.S. dollars and will cause U.S. dollar translation of such currencies to vary from one period to another. We cannot predict the scope of any fluctuations in the values of these foreign currencies relative to the U.S. dollar nor the effect of exchange rate fluctuations upon our future operating results.

Sales of Substantial Amounts of Our Shares, or Even the Availability of Our Shares for Sale, in the Open Market Could Cause the Market Price of our Shares to Decline. Under our registration statement that the Securities and Exchange Commission, or the SEC, declared effective on May 25, 2006, we have registered with the SEC an aggregate of $75,000,000 of our equity securities that we may issue from time to time, in one or more offerings at prices and on terms that we will determine at the time of each offering. Under that so-called shelf registration statement, we have registered multiple kinds of our equity securities, including our common stock, preferred stock, warrants and a combination of these securities, or units. Through March 31, 2007, we have taken-down from our shelf registration statement, issued and sold, an aggregate of 4,690,006 shares of our common stock valued at $11,345,706 and warrants to purchase up to 1,425,919 shares of our common stock valued at $4,092,388 and, if those warrants are fully exercised at their exercise price of $2.87, we will have issued an additional 1,425,919 shares of our common stock under that shelf registration statement. In other words, the shares of common stock we have sold in offerings from our shelf registration statement represent approximately 15% of the value of the aggregate equity securities from our shelf registration statement at March 31, 2007 (20% if the warrants we have sold from our shelf registration statement are fully exercised).

In addition to the shares and warrants we have issued from our shelf registration statement, we have also issued 2,201,644 shares of our common stock and 938,475 warrants to purchase up to 938,475 shares of our common stock in other recent offerings.

Sales of substantial amounts of our stock at any one time or from time to time by the investors to whom we have issued them, or even the availability of these shares for sale, could cause the market price of our common stock to decline.

We Will Have a Need For Significant Funds In The Future And There Is No Guarantee That We Will Be Able To Obtain The Funds We Need. Developing a new medical device and conducting clinical trials is expensive. Our product development efforts may not lead to commercial products, either because our product candidates fail to be found safe or effective in clinical trials or because we lack the necessary financial or other resources or relationships to pursue our programs through commercialization. Our capital and future revenue may not be sufficient to support the expenses of our operations, the development of a commercial infrastructure and the conduct of our clinical trials and pre-clinical research.

Our plans for continuing clinical trials, conducting research, furthering development and, eventually, marketing our human-use equipment will involve substantial costs. The extent of our costs will depend on many factors, including some of the following:

- The progress and breadth of pre-clinical testing and the size or complexity of our clinical trials and drug delivery programs, all of which directly influence cost;

- Higher then expected costs involved in complying with the regulatory process to get our human-use products approved, including the number, size, and timing of necessary clinical trials and costs associated with the current assembly and review of existing clinical and pre-clinical information;

- Higher then expected costs involved in patenting our technologies and defending them and pursuing our intellectual property strategy;

- Changes in our existing research and development relationships and our ability to enter into new agreements;

- Changes in or terminations of our existing collaboration and licensing arrangements;

- Faster than expected rate of progress and changes in the scope and the cost of our research and development and clinical trial activities;

- An increase or decrease in the amount and timing of milestone payments we receive from collaborators;

- Higher than expected costs of preparing an application for FDA approval of our MedPulser® Electroporation Therapy System;

- Higher than expected costs of developing the processes and systems to support FDA approval of our MedPulser® Electroporation Therapy System;

- An increase in our timetable and costs for the development of marketing operations and other activities related to the commercialization of our MedPulser® Electroporation Therapy System and our other product candidates;

- A change in the degree of success in our Phase III clinical trial of our MedPulser® Electroporation Therapy System and in our other clinical trials;

- Higher then expected costs to further develop and scale up our manufacturing capability of our human-use equipment; and

- Competition for our products and our ability, and that of our partners, to commercialize our products.

We plan to fund operations by several means. We will attempt to enter into contracts with partners that will fund either general operating expenses or specific programs or projects. Some funding also may be received through government grants. However, we may not be able to enter into any such contracts or may not receive such grants or, if we do, our partners and the grants may not provide enough funding to meet our needs.

In the past, we have raised funds through the public and private sale of our stock, and we are likely to do this in the future. Sale of our stock to new private or public investors usually results in existing stockholders becoming diluted. The greater the number of shares sold, the greater the dilution. A high degree of dilution can make it difficult for the price of our stock to increase, among other things. Dilution also weakens a stockholder s voting power.

We cannot assure you that we will be able to raise additional capital to fund operations, or that we will be able to raise additional capital under terms that are favorable to us.

If We Are Unable To Develop Commercially Successful Products, Including Our Medpulser® Electroporation Therapy System, In Various Markets For Multiple Indications, Particularly For The Treatment Of Head And Neck Cancer, Our Business Will Be Harmed And We May Be Forced To Curtail Or Cease Operations. Our ability to achieve and sustain operating profitability depends on our ability to successfully commercialize our MedPulser® Electroporation Therapy System in Europe and in the US for use in treating solid tumors, particularly for the treatment of head and neck cancer, and other indications. This will depend in large part on our ability to commence, execute and complete clinical programs and obtain regulatory approvals for our MedPulser® Electroporation Therapy System. While we have received various regulatory approvals which apply to Europe for our MedPulser® Electroporation Therapy System for use in treating solid tumors, the products related to such regulatory approval have not yet been commercialized. The FDA has been notified that most of our study population will be from non-English speaking sites in Eastern Europe whose outcome data may be considered to be unlike the United States, Canada and Western Europe. Further clinical trials are still necessary before we can

seek regulatory approval to sell our products in the United States for treating solid tumors. We cannot assure you we will receive approval for our MedPulser® Electroporation Therapy System for the treatment of head and neck cancer or other types of cancer or indications in the United States or in other countries or, if approved, that we will achieve a significant level of sales. If we fail to commercialize our products, we may be forced to curtail or cease operations.

We have commenced additional clinical studies in different indications, such as breast cancer, and are also in the pre-clinical stages of research and development with other new product candidates using our electroporation technology. These new indications and product candidates will require significant costs to advance through the development stages. If such product candidates are advanced through clinical trials, the results of such trials may not gain FDA approval. Even if approved, our products may not be commercially successful.

We cannot assure you that we will successfully develop any products. If we fail to develop or successfully commercialize any products, we may be forced to curtail or cease operations. Additionally, much of the commercialization efforts for our products must be carried forward by a licensing partner. We may not be able to obtain such a partner.

The Market For Our Stock Is Volatile, Which Could Adversely Affect An Investment In Our Stock. Our share price and volume are highly volatile. This is not unusual for biomedical companies of our size, age, and with a discrete market niche. It also is common for the trading volume and price of biotechnology stocks to be unrelated to a company s operations, i.e. to go up or down on positive or no news. Our stock has exhibited this type of behavior in the past, and may well exhibit it in the future. The historically low trading volume of our stock, in relation to many other biomedical companies of our size, makes it more likely that a severe fluctuation in volume, either up or down, will affect the stock price.

Some factors that we would expect to depress the price of our stock include:

- Adverse clinical trial results;
- Our inability to obtain additional capital;
- Announcement that the FDA denied our request to approve our human-use product for commercialization in the United States, or similar denial by other regulatory bodies which make independent decisions outside the United States (to date, the EU is the only foreign jurisdiction in which we have sought approval for commercialization);
- Announcement of legal actions brought by or filed against us for patent or other matters, especially if we receive negative rulings or outcomes in such actions;
- Cancellation of corporate partnerships or other material agreements;
- Public concern as to the safety or efficacy of our human-use products including public perceptions regarding gene therapy in general;
- Stockholders decisions, for whatever reasons, to sell large amounts of our stock;
- Adverse research and development results;
- Declining working capital to fund operations, or other signs of apparent financial uncertainty;
- Significant advances made by competitors that adversely affect our potential market position; and
- The loss of key personnel and the inability to attract and retain additional highly-skilled personnel.

Additionally, our clinical trials are open-ended and, therefore, there is the possibility that information regarding the success (or setbacks) of our clinical trials maybe be obtained by the public prior to a formal announcement by us. These factors, as well as the other factors described in this prospectus, could significantly affect the price of our stock.

If We Do Not Have Enough Capital To Fund Operations, Then We Will Have To Cut Costs. If we are unable to raise additional funds under acceptable terms, then we will have to take measures to cut costs, such as:

- Delay, scale back or discontinue one or more of our oncology or gene delivery programs or other aspects of operations, including laying off some personnel or stopping or delaying clinical trials;

- Sell or license some of our technologies that we would not otherwise give up if we were in a better financial position;

- Sell or license some of our technologies under terms that are less favorable than they otherwise might have been if we were in a better financial position; and

- Consider merging with another company or positioning ourselves to be acquired by another company.

If it became necessary to take one or more of the above-listed actions, then we may receive a lower valuation, which could impact our stock price. Further, the effects on our operations, financial performance and stock price may be significant if we do not or cannot take one or more of the above-listed actions in a timely manner when needed.

Pre-Clinical And Clinical Trials Of Human-Use Equipment Are Unpredictable. If We Experience Unsuccessful Trial Results, Our Business Will Suffer. Before any of our human-use equipment can be sold, the FDA or applicable foreign regulatory authorities must determine that the equipment meets specified criteria for use in the indications for which approval is requested, including obtaining appropriate regulatory approvals. Satisfaction of regulatory requirements typically takes many years, and involves compliance with requirements covering research and development, testing, manufacturing, quality control, labeling and promotion of drugs for human use. To obtain regulatory approvals, we must, among other requirements, complete clinical trials demonstrating that our product candidates are safe and effective for a particular cancer type or other disease. Regulatory approval of a new drug is never guaranteed. The FDA will make this determination based on the results from our pre-clinical testing and clinical trials and has substantial discretion in the approval process. Despite the time and experience exerted, failure can occur at any stage, and we could encounter problems causing us to abandon clinical trials.

We have completed Phase II clinical trials and are conducting two Phase III clinical trials of our lead product candidate, the MedPulser® Electroporation Therapy System, for the treatment of recurrent and second primary head and neck cancers. In addition, we are conducting two Phase IV (or Pre-Marketing) clinical trials of our MedPulser® Electroporation Therapy System for the treatment of new and recurrent head and neck cancers and new and recurrent primary skin cancers, and have started a Phase I clinical trial of our MedPulser® Electroporation Therapy System for the treatment of breast cancer. Current or future clinical trials may demonstrate the MedPulser® Electroporation Therapy System is neither safe nor effective.

Any delays or difficulties we encounter in our pre-clinical research and clinical trials, in particular the Phase III clinical trials of our MedPulser® Electroporation Therapy System for the treatment of recurrent head and neck cancer, may delay or preclude regulatory approval. Our product development costs will increase if we experience delays in testing or regulatory approvals or if we need to perform more extensive or larger clinical trials than planned. Any such events could also delay or preclude the commercialization of our MedPulser® Electroporation Therapy System or any other product candidates.

Clinical trials are unpredictable, especially human-use trials. Results achieved in early stage clinical trials may not be repeated in later stage trials, or in trials with more patients. When early positive results were not repeated in later stage trials, pharmaceutical and biotechnology companies have suffered significant setbacks. Not only are commercialization timelines pushed back, but some companies, particularly smaller biotechnology companies with limited cash reserves, have discontinued business after releasing news of unsuccessful clinical trial results.

We cannot be certain the results we observed in our pre-clinical testing will be confirmed in clinical trials or the results of any of our clinical trials will support FDA approval. If we experience unexpected, inconsistent or disappointing results in connection with a clinical or pre-clinical trial our business will suffer.

We have five ongoing clinical studies in patients with head and neck, cutaneous/subcutaneous, and breast cancer. In each study, patients are potentially at a high risk of morbidity complications and mortality due to the nature and late stage of their disease. The following serious adverse events (SAEs) that were related to treatment with bleomycin and the MedPulser® Electroporation Therapy System have been reported: sudden death (suspected heart attack), sudden death (suspected internal bleeding), sudden death (unknown cause), hemorrhage, obstruction of the airway (pharynx/nasopharynx), edema, pain, weight loss (anorexia) and carotid artery injury. The safety issues will have to be well-managed as bleeding is a potential SAE that can occur anytime until the wound is healed. Because our studies are controlled and ongoing, we cannot assure you that these or other SAEs will not delay or prevent approval of our product by the FDA.

In addition, any of our clinical trials for our treatment may be delayed or halted at any time for various reasons, including:

- The electroporation-mediated delivery of drugs or other agents may be found to be ineffective or be considered to cause harmful side effects, including death;

- Our clinical trials may take longer than anticipated for any of a number of reasons, including a scarcity of subjects that meet the physiological or pathological criteria for entry into the study and a scarcity of subjects that are willing to participate through the end of the trial, or follow-up visits;

- The reported clinical data may change over time as a result of the continuing evaluation of patients or the current assembly and review of existing clinical and pre-clinical information;

- Data from various sites participating in the clinical trials may be incomplete or unreliable, which could result in the need to repeat the trial or abandon the project; and

- Pre-clinical and clinical data can be interpreted in many different ways, and the FDA and other regulatory authorities may interpret our data differently than we do, which could halt or delay our clinical trials or prevent regulatory approval.

If any of the above events arise during our clinical trials or data review, then we would expect this to have a serious negative impact on our company and your investment.

Despite the FDA s designation of our MedPulser® Electroporation Therapy System as a Fast Track product, such FDA designation is independent of the FDA s Priority Review and Accelerated Approval designations and we may encounter delays in the regulatory approval process due to additional information requirements from the FDA, unintentional omissions from our PMA for our MedPulser® Electroporation Therapy System, or other delays in the FDA s review process. We may encounter delays or rejections in the regulatory approval process because of additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review.

A majority of our operating expenses relate to our clinical trials. A delay in our clinical trials, for whatever reason, will probably require us to spend additional funds to keep our product(s) moving through the regulatory process. If we do not have or cannot raise additional funds, then the testing of our human-use products could be discontinued. In the event our clinical trials are not successful, we will have to determine whether to continue to fund our programs to address the deficiencies, or whether to abandon our clinical development programs for our products in tested indications. Loss of our human-use product line would be a significant setback for our company.

Because there are so many variables inherent in clinical trials, we cannot predict whether any of our future regulatory applications to conduct clinical trials will be approved by the FDA or other regulatory authorities, whether our clinical trials will commence or proceed as planned, and whether the trials will ultimately be deemed to be successful. To date, our experience has been that submission and approval of clinical protocols has taken longer than desired or expected.

Our Business Is Highly Dependent On Receiving Approvals From Various United States And International Government Agencies And Will Be Dramatically Affected If Approval To Manufacture And Sell Our Human-Use Equipment Is Not Granted Or Is Not Granted In A Timely Manner. The production and marketing of our human-use equipment and the ongoing research, development, pre-clinical testing, and clinical trial activities are subject to extensive regulation. Numerous governmental agencies in the U.S. and internationally, including the FDA, must review our applications and decide whether to grant regulatory approval. All of our human-use equipment must go through an approval process, in some instances for each indication for which we want to label it for use (such as use for dermatology, use for transfer of a certain gene to a certain tissue, or use for administering a certain drug to a certain tumor type in a patient having certain characteristics). These regulatory processes are extensive and involve substantial costs and time.

We have limited experience in, and limited resources available for regulatory activities. Failure to comply with applicable regulations can, among other things, result in non-approval, suspensions of regulatory approvals, fines, product seizures and recalls, operating restrictions, injunctions and criminal prosecution.

Any of the following events can occur and, if any did occur, any one could have a material adverse effect on our business, financial conditions and results of operations:

- As mentioned earlier, clinical trials may not yield sufficiently conclusive results for regulatory agencies to approve the use of our products;

- There can be delays, sometimes long, in obtaining approval for our human-use devices, and indeed, we have experienced such delays in obtaining FDA approval of our clinical protocols;

- The rules and regulations governing human-use equipment such as ours can change during the review process, which can result in the need to spend time and money for further testing or review;

- If approval for commercialization is granted, it is possible the authorized use will be more limited than we believe is necessary for commercial success, or that approval may be conditioned on completion of further clinical trials or other activities; and

- Once granted, approval can be withdrawn, or limited, if previously unknown problems arise with our human-use product or data arising from its use.

We Could Be Substantially Damaged If Physicians And Hospitals Performing Our Clinical Trials Do Not Adhere To Protocols Or Promises Made In Clinical Trial Agreements. We work and have worked with a number of hospitals to perform clinical trials, primarily in the field of oncology. We depend on these hospitals to recruit patients for our trials, to perform the trials according to our protocols, and to report the results in a thorough, accurate and consistent manner. Although we have agreements with these hospitals which govern what each party is to do with respect to each protocol, patient safety, and avoidance of conflict of interest, there are risks that the terms of the contracts will not be followed, such as the following:

Possible Deviations from Protocol. The hospitals or the physicians working at the hospitals may not perform the trials correctly. Deviations from our protocol may make the clinical data not useful and the trial could become essentially worthless.

Potential for Conflict of Interest. Physicians working on protocols may have an improper economic interest in our company, or other conflict of interest. When a physician has a personal stake in the success of the trial, such as when a physician owns stock, or rights to purchase stock of the trial sponsor, it can create suspicion that the trial results were improperly influenced by the physician s interest in economic gain. Not only can this put the clinical trial results at risk, but it can also cause serious damage to a company s reputation.

Patient Safety and Consent Issues. Physicians and hospitals may fail to secure formal written consent as instructed or report adverse effects that arise during the trial in the proper manner, which could put patients at unnecessary risk. Physicians and hospital staff may fail to observe proper safety measures such as the mishandling of used medical needles, which may result in the transmission of infectious and deadly diseases, such as HIV. This increases our liability, affects the data, and can damage our reputation.

If any of these events were to occur, then it could have a material adverse effect on our ability to receive regulatory authorization to sell our human-use equipment, and on our reputation. Negative events that arise in the performance of clinical trials sponsored by biotechnology companies with our size and limited cash reserves have resulted in companies going out of business. While these risks are always present, to date, our contracted physicians and clinics have been successful in collecting significant data regarding the clinical protocols under which they have operated, and we are unaware of any conflicts of interest or improprieties regarding our protocols.

Even If Our Products Are Approved By Regulatory Authorities, If We Fail To Comply With On-Going Regulatory Requirements, Or If We Experience Unanticipated Problems With Our Products, These Products Could Be Subject To Restrictions Or Withdrawal From The Market. Any product for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data and promotional activities for such product, will be subject to continual review and periodic inspections

by the FDA and other regulatory bodies. Even if regulatory approval of a product is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to certain requirements resulting in costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. Later discovery of previously unknown problems with our products, including unanticipated adverse events of unanticipated severity or frequency regarding manufacturer or manufacturing processes or failing to comply with regulatory requirements, may result in restrictions on such products or manufacturing processes, withdrawal of the products from the market, voluntary or mandatory recall, fines, suspension of regulatory approvals, product seizures or detention, injunctions or the imposition of civil or criminal penalties.

Failure To Comply With Foreign Regulatory Requirements Governing Human Clinical Trials And Marketing Approval For Our Human-Use Equipment Could Prevent Us From Selling Our Products In Foreign Markets, Which May Adversely Affect Our Operating Results And Financial Conditions. For the purposes of marketing our MedPulser® Electroporation Therapy System outside the United States, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country and may require additional testing. The time required to obtain approvals outside the United States may differ from that required to obtain FDA approval. We may not obtain foreign regulatory approval on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other countries or by the FDA. Failure to comply with these regulatory requirements or to obtain required approvals could impair our ability to develop these markets and could have a material adverse effect on our results of operations and financial condition.

Our Ability To Achieve Significant Revenues From Sales Or Leases Of Human-Use Products Will Depend On Establishing Effective Sales, Marketing And Distribution Capabilities Or Relationships And We Currently Lack Substantial Experience In These Areas. To market our products, we will need to develop sales, marketing and distribution capabilities. In order to develop or otherwise obtain these capabilities, we may have to enter into marketing, distribution or other similar arrangements with third parties in order to sell, market and distribute our products successfully. To the extent that we enter into any such arrangements with third parties, our product revenue is likely to be lower than if we marketed and sold our products directly, and our revenues will depend upon the efforts of these third parties.

We have limited experience in sales, marketing and distribution of clinical and human-use products and we currently have no sales, marketing or distribution capability. If we decide to market and sell our human-use products directly, we must develop a marketing and sales capability. This would involve substantial costs, training and time. We may be unable to develop sufficient sales, marketing and distribution capabilities to commercialize our products successfully. Regardless of whether we elect to use third parties or seek to develop our own marketing capability, we may not be able to successfully commercialize any product.

We Rely On Collaborative And Licensing Relationships To Fund A Portion Of Our Research And Development Expenses. If We Are Unable To Maintain Or Expand Existing Relationships, Or Initiate New Relationships, We Will Have To Defer Or Curtail Research And Development Activities In One Or More Areas. Our partners and collaborators fund a portion of our research and development expenses and assist us in the research and development of our human-use equipment. These collaborations and partnerships help pay the salaries and other overhead expenses related to research. In the past, we have encountered operational difficulties after the termination of an agreement by a former partner. Because this partnership was terminated, we did not receive significant milestone payments which we had expected and were forced to delay some clinical trials as well as some product development.

Our clinical trials to date have used our equipment together with the anti-cancer drug bleomycin. We do not currently intend to package bleomycin together with the equipment for sale, but if it should be necessary or desirable to do this, we would need a reliable source of the drug. At this time we do not have a reliable long-term source of bleomycin for inclusion with equipment or alone. If it becomes necessary or desirable to include bleomycin in our package, we would have to form a relationship with another provider of this generic drug before any product could be launched.

We also rely on scientific collaborators at companies and universities to further expand our research and to test our equipment. In most cases, we lend our equipment to a collaborator, teach him or her how to use it, and together design experiments to test the equipment in one of the collaborator s fields of expertise. We aim to secure agreements that restrict collaborators rights to use the equipment outside of the agreed upon research, and outline the rights each of us will have in any results or inventions arising from the work.

Nevertheless, there is always potential that:

- Our equipment will be used in ways we did not authorize, which can lead to liability and unwanted competition;

- We may determine that our technology has been improperly assigned to us or a collaborator may claim rights to certain of our technology, which may require us to pay license fees or milestone payments and, if

commercial sales of the underlying product are achieved, royalties;

- We may lose rights to inventions made by our collaborators in the field of our business, which can lead to expensive legal fights and unwanted competition;

- Our collaborators may not keep our confidential information to themselves, which can lead to loss of our right to seek patent protection and loss of trade secrets, and expensive legal fights; and

- Collaborative associations can damage a company s reputation if they fail and thus, by association or otherwise, the scientific or medical community may develop a negative view of us.

We cannot guarantee that any of the results from these collaborations will be successful. We also cannot be sure that we will be able to continue to collaborate with individuals and institutions that will further develop our products, or that we will be able to do so under terms that are not overly restrictive. If we are not able to maintain or develop new collaborative relationships, it is likely that our research pace will slow down and that it will take longer to identify and commercialize new products, or new indications for our existing products.

We Rely Heavily On Our Patents And Proprietary Rights To Attract Partnerships And Maintain Market Position. The strength of our patent portfolio is an important factor that will influence our success. Patents give the patent holder the right to prevent others from using its patented technology. If someone infringes upon the patented material of a patent holder, the patent holder has the right to initiate legal proceedings against that person to protect its patented material. These proceedings, however, can be lengthy and costly. We perform an ongoing review of our patent portfolio to confirm that our key technologies are adequately protected. If we determine that any of our patents require either additional disclosures or revisions to existing information, we may ask that such patents be reexamined or reissued, as applicable, by the United States Patent and Trademark Office.

The patenting process, enforcement of issued patents, and defense against claims of infringement are inherently risky. Because we rely heavily on patent protection, we face the following significant risks:

Possibility of Inadequate Patent Protection for Product. The United States Patent and Trademark Office or foreign patent offices may not grant patents of meaningful scope based on the applications we have already filed and those we intend to file. If we do not have patents that adequately protect our human-use equipment and indications for its use, then we will not be competitive.

Potential That Important Patents Will Be Judged Invalid. Some of the issued patents we now own or license may be determined to be invalid. If we have to defend the validity of any of our patents, the costs of such defense could be substantial, and there is no guarantee of a successful outcome. In the event an important patent related to our drug delivery technology is found to be invalid, we may lose competitive position and may not be able to receive royalties for products covered in part or whole by that patent under license agreements.

Danger of Being Charged With Infringement. Although we are not currently aware of any parties intending to pursue infringement claims against us, there is the possibility that we may use a patented technology owned by another person and/or be charged with infringement. Defending or indemnifying a third party against a charge of infringement can involve lengthy and costly legal actions, and there can be no guarantee of a successful outcome. Biotechnology companies comparable to us in size and financial position have discontinued business after fighting and losing infringement battles. If we or our partners were prevented from using or selling our human-use equipment, then our business would be materially adversely affected.

Freedom to Operate Issues. We are aware that patents related to electrically-assisted drug delivery have been granted to, and patent applications have been filed by our potential competitors. We or our partners have received licenses from some of these patents, and will consider receiving additional licenses in the future. Nevertheless, the competitive nature of our field of business and the fact that others have sought patent protection for technologies similar to ours make these potential issues significant.

In addition to patents, we also rely on trade secrets and proprietary know-how. We try to protect this information with appropriate confidentiality and inventions agreements with our employees, scientific advisors, consultants, and collaborators. We cannot be sure that these agreements will

not be breached, that we will be able to protect ourselves if they are breached, or that our trade secrets will not otherwise become known or be independently discovered by competitors. If any of these events occurs, then we face the potential of losing control over valuable company information, which could negatively affect our competitive position.

If We Are Not Successful In Developing Our Current Products, Our Business Model May Change As Our Priorities And Opportunities Change And Our Business May Never Develop To Be Profitable Or Sustainable. There are many products and programs that seem promising to us which we could pursue. However, with limited resources, we may decide to change priorities and shift programs away from those that we have been pursuing for the purpose of exploiting our

core technology of electroporation. The choices we make will be dependent upon numerous factors, for which we cannot predict. We cannot be sure that our business model, as it currently exists or as it may evolve, will enable us to become profitable or to sustain operations.

Serious And Unexpected Side Effects Attributable To Gene Therapy May Result In Governmental Authorities Imposing Additional Regulatory Requirements Or A Negative Public Perception Of Our Products. The MedPulser® DNA Delivery System and any of our other Gene Therapy or DNA Vaccine product candidates under development could be broadly described as gene therapies. A number of clinical trials are being conducted by other pharmaceutical companies involving gene therapy, including compounds similar to, or competitive with, our product candidates. The announcement of adverse results from these clinical trials, such as serious unwanted and unexpected side effects attributable to treatment, or any response by the FDA to such clinical trials, may impede the progress of our clinical trials, delay or prevent us from obtaining regulatory approval, or negatively influence public perception of our product candidates, which could harm our business and results of operations and reduce the value of our stock.

The U.S. Senate has held hearings concerning the adequacy of regulatory oversight of gene therapy clinical trials, as well as the adequacy of research subject education and protection in clinical research in general, and to determine whether additional legislation is required to protect volunteers and patients who participate in such clinical trials. The Recombinant DNA Advisory Committee, or RAC, which acts as an advisory body to the National Institutes of Health, has expanded its public role in evaluating important public and ethical issues in gene therapy clinical trials. Implementation of any additional review and reporting procedures or other additional regulatory measures could increase the costs of or prolong our product development efforts or clinical trials.

As of March 31, 2007, to our knowledge, there have not been any serious adverse events in any gene therapy clinical trials in which our technology was used. In the future, if one or a series of serious adverse events were to occur during a gene therapy clinical trial in which our technology was used, we would report all such events to the FDA and other regulatory agencies as required by law. Such serious adverse events, whether treatment-related or not, could result in negative public perception of our treatments and require additional regulatory review or other measures, which could increase the cost of or prolong our gene therapy clinical trials or require us to halt our clinical trials altogether.

The FDA has not approved any gene therapy product or gene-induced product for sale in the United States. The commercial success of our products will depend in part on public acceptance of the use of gene therapy products or gene-induced products, which are a new type of disease treatment for the prevention or treatment of human diseases. Public attitudes may be influenced by claims that gene therapy products or gene-induced products are unsafe, and these treatment methodologies may not gain the acceptance of the public or the medical community. Negative public reaction to gene therapy products or gene-induced products could also result in greater government regulation and stricter clinical trial oversight.

We Cannot Predict The Safety Profile Of The Use Of Our Medpulser® Electroporation Therapy System When Used In Combination With Other Therapies. Our current trials involve the use of our MedPulser® Electroporation Therapy System in combination with bleomycin, an anti-cancer drug. While the data we have evaluated to date suggest the MedPulser® Electroporation Therapy System does not increase the adverse effects of other therapies, we cannot predict if this outcome will continue to be true or whether possible adverse side effects directly attributable to other drugs will compromise the safety profile of our MedPulser® Electroporation Therapy System when used in certain combination therapies or if used off-label with other drugs by physicians.

There Is A Possibility That Our Technology Will Become Obsolete Or Lose Its Competitive Advantage. The drug delivery business is very competitive, fast moving and intense, and expected to be increasingly so in the future. Other companies and research institutions are developing drug delivery systems that, if not similar in type to our systems, are designed to address the same patient or subject population. Therefore, we cannot promise that our products will be the best, the safest, the first to market, or the most economical to make or use. If competitors products are better than ours, for whatever reason, then we could become less profitable from product sales and our products could become obsolete.

There are many reasons why a competitor might be more successful than us, including:

Financial Resources. Some competitors have greater financial resources and can afford more technical and developmental setbacks than we can.

Greater Experience. Some competitors have been in the biomedical business longer than we have. They have greater experience than us in critical areas like clinical testing, obtaining regulatory approval and sales and marketing. This experience or their name recognition may give them a competitive advantage over us.

Superior Patent Position. Some competitors may have better patent protection over their technology than we have or will have in order to protect our technology. If we cannot use our patents to prevent others from copying our technology or developing similar technology, or if we cannot obtain a critical license to another s patent that we need to manufacture and use our equipment, then we would expect our competitive position to weaken.

Faster to Market. Some companies with competitive technologies may move through stages of development, approval, and marketing faster than us. If a competitor receives FDA approval before us, then it will be authorized to sell its products before we can sell ours. Because the first company to market often has a significant advantage over others, a second place position could result in less than anticipated sales.

Reimbursement Allowed. In the U.S., third party payers, such as Medicare, may reimburse physicians and hospitals for competitors products but not for our own human-use products. This would significantly affect our ability to sell our human-use products in the U.S. and would have a negative impact on revenue and our business as a whole. Outside of the U.S., reimbursement and funding policies vary widely.

Any Acquisition We Might Make May Be Costly And Difficult To Integrate, May Divert Management Resources Or Dilute Stockholder Value. We have considered and made strategic acquisitions in the past, including the acquisition of Inovio AS, and in the future, may acquire or invest in complementary companies, products or technologies. As part of our business strategy, we may acquire assets or businesses principally relating to or complementary to our current operations, and we have in the past evaluated and discussed such opportunities with interested parties. Any acquisitions we undertake will be accompanied by issues commonly encountered in business acquisitions, which could adversely affect us, including:

- Potential exposure to unknown liabilities of acquired companies;
- The difficulty and expense of assimilating the operations and personnel of acquired businesses;
- Diversion of management time and attention, and other resources;
- Loss of key employees and customers as a result of changes in management;
- Incurrence of amortization expenses related to intangible assets or large impairment charges such as the charges in excess of $3.3 million we incurred in our 2005 results of operations related to the write-off of in-process research and development that we acquired in our acquisition of Inovio AS;
- Increased legal, accounting and other administrative costs associated with negotiation, documentation and reporting any such acquisition; and
- Possible dilution to our stockholders.

In addition, geography and/or language barriers may make the integration of businesses more difficult. We may not be successful in overcoming these risks or any other problems encountered in connection with any of our acquisitions.

Economic, Political, Military Or Other Events In The United States Or In Other Countries Could Interfere With Our Success Or Operations And Harm Our Business. The September 11, 2001 terrorist attacks disrupted commerce throughout the United States and other parts of the world. The continued threat of similar attacks throughout the world and the military action taken by the United States and other nations in Iraq or other countries may cause significant disruption to commerce throughout the world. To the extent that such disruptions further slow down the global economy, our business and results of operations could be materially adversely affected. We are unable to predict whether the threat of new attacks or the

responses thereto will result in any long-term commercial disruptions or if such activities or responses will have a long-term material adverse effect on our business, results of operations or financial condition.

Our Dependence Upon Non-Marketed Products, Our Lack Of Experience In Manufacturing And Marketing Human-Use Products, And Our Continuing Deficit May Result In Even Further Fluctuations In Our Trading Volume And Share Price. Successful approval, marketing, and sales of our human-use equipment are critical to the financial future of our company. Our human-use products are not yet approved for sale in the United States and other jurisdictions and we may never obtain these approvals. Even if we do obtain approvals to sell our human-use products in the United States, these sales may not be as large or as timely as we expect. These uncertainties may cause our operating results to fluctuate dramatically in the next several years. We believe that quarter-to-quarter or annual comparisons of our operating results are not a good

indicator of our future performance. Nevertheless, these fluctuations may cause us to perform below the expectations of public market analysts and investors. If this happens, the price of our common shares would likely decline.

We Have The Potential for Product Liability Issues With Human-Use Equipment. The testing, marketing and sale of human-use products expose us to significant and unpredictable risks of equipment product liability claims. These claims may arise from patients, clinical trial volunteers, consumers, physicians, hospitals, companies, institutions, researchers or others using, selling, or buying our equipment. Product liability risks are inherent in our business and will exist even after the products are approved for sale. If and when our human-use equipment is commercialized, we run the risk that use (or misuse) of the equipment will result in personal injury. The chance of such an occurrence will increase after a product type is on the market.

We have obtained liability insurance in connection with our ongoing business and products, and we may purchase additional policies if such policies are determined by management to be necessary. However, our existing insurance and the insurance we purchase may not provide adequate coverage in the event a claim is made and we may be required to pay claims directly. If we did have to make payment against a claim, it would impact our financial ability to perform the research, development, and sales activities that we have planned.

If and when our human-use equipment is commercialized, there is always the risk of product defects. Product defects can lead to loss of future sales, decrease in market acceptance, damage to our brand or reputation, product returns and warranty costs, and even product withdrawal from the market. These events can occur whether the defect resides in a component we purchased from a third party or whether it was due to our design and/or manufacturer. We expect that our sales agreements will contain provisions designed to limit our exposure to product liability claims. However, we do not know whether these limitations will be enforceable in the countries in which the sale is made. Any product liability or other claim brought against us, if successful and of sufficient magnitude, could negatively impact our financial performance.

We Cannot Be Certain That We Will Be Able To Manufacture Our Human-Use Equipment In Sufficient Volumes At Commercially Reasonable Costs. Our manufacturing facilities for human-use products will be subject to quality systems regulations, international quality standards and other regulatory requirements, including pre-approval inspection for our human-use equipment and periodic post-approval inspections for all human-use products. While we have undergone and passed a quality systems audit from an international body, we have never undergone a quality systems inspection by the FDA. We may not be able to pass an FDA inspection when it occurs. If our facilities are found not to be compliant with FDA standards in sufficient time, prior to a launch of our product in the United States, then it will result in a delay or termination of our ability to produce our human-use equipment in our facility. Any delay in production will have a negative effect on our business. While there are no target dates set forth for launch of our products in the United States, we plan on launching these products once we successfully perform a Phase III clinical study, obtain the requisite regulatory approval, and engage a partner who has the financial resources and marketing capacity to bring our products to market.

Our products must be manufactured in sufficient commercial quantities, in compliance with regulatory requirements, and at an acceptable cost to be attractive to purchasers. We rely on third parties to manufacture and assemble most aspects of our equipment, and thus cannot directly control the quality, timing or quantities of equipment manufactured or assembled at any given time.

Disruption of the manufacture of our products, for whatever reason, could delay or interrupt our ability to manufacture or deliver our products to customers in a timely basis. This would be expected to affect revenue and may affect our long-term reputation, as well. In the event we provide product of inferior quality, we run the risk of product liability claims and warranty obligations, which will negatively affect our financial performance.

If We Lose Key Personnel Or Are Unable To Attract And Retain Additional, Highly Skilled Personnel Required To Develop Our Products Or Obtain New Collaborations, Our Business May Suffer. We depend, to a significant extent, on the efforts of our key employees, including senior management and senior scientific, clinical, regulatory and other personnel. The development of new therapeutic products requires expertise from a number of different disciplines, some of which is not widely available. We depend upon our scientific staff to discover new product candidates and to develop and conduct pre-clinical studies of those new potential products. Our clinical and regulatory staff is responsible for the design and execution of clinical trials in accordance with FDA requirements and for the advancement of our product candidates toward FDA approval. Our manufacturing staff is responsible for designing and conducting our manufacturing processes in

accordance with the FDA s Quality System Regulations. The quality and reputation of our scientific, clinical, regulatory and manufacturing staff, especially the senior staff, and their success in performing their responsibilities, are significant factors in attracting potential funding sources and collaborators. In addition, our Chief Executive Officer and Chief Financial Officer and other executive officers are involved in a broad range of critical activities, including providing strategic and operational guidance. The loss of these individuals, or our inability to retain or recruit other key management and scientific, clinical,

regulatory, manufacturing and other personnel, may delay or prevent us from achieving our business objectives. We face intense competition for personnel from other companies, universities, public and private research institutions, government entities and other organizations.

We May Not Meet Environmental Guidelines And As A Result Could Be Subject To Civil And Criminal Penalties. Like all companies in our industry, we are subject to a variety of governmental regulations relating to the use, storage, discharge and disposal of hazardous substances. Our safety procedures for handling, storage and disposal of such materials are designed to comply with applicable laws and regulations. While we believe we are currently in compliance with all material applicable environmental regulations, if we are found to not comply with environmental regulations, or if we are involved with contamination or injury from these materials, then we may be subject to civil and criminal penalties. This would have a negative impact on our reputation and finances, and could result in a slowdown or even complete cessation of our business.

Our Facilities Are Located Near Known Earthquake Fault Zones, And The Occurrence Of An Earthquake Or Other Catastrophic Disaster Could Cause Damage To Our Facilities And Equipment. Our facilities are located near known earthquake fault zones and are vulnerable to damage from earthquakes. We are also vulnerable to damage from other types of disasters, including fire, floods, power loss, communications failures and similar events. If any disaster were to occur, our ability to operate our business at our facilities would be seriously impaired. In addition, the unique nature of our research activities could cause significant delays in our programs and make it difficult for us to recover from a disaster. The insurance we maintain may not be adequate to cover our losses resulting from disasters or other business interruptions. Accordingly, an earthquake or other disaster could materially and adversely harm our ability to conduct business.

Legislation Requiring Companies To Evaluate Internal Controls Under Section 404 Of The Sarbanes-Oxley Act Of 2002 Has Increased Our Expenses And Could Result In Events That Adversely Affect Our Stock Price. As directed by Section 404 of the Sarbanes-Oxley Act of 2002 (Section 404), the Securities and Exchange Commission adopted rules requiring public companies to include a report of management on our internal control over financial reporting in our annual reports on Form 10-K that contains an assessment by management of the effectiveness of our internal control over financial reporting. In addition, our independent registered public accounting firm must attest to and report on management s assessment of the effectiveness of our internal control over financial reporting. This requirement first applied to our 2004 Annual Report on Form 10-K.

How companies are implementing these new requirements including internal control reforms, if any, to comply with Section 404 s requirements, and how independent auditors are applying these new requirements and testing companies internal controls, is an evolving process and remains subject to uncertainty. The requirements of Section 404 are ongoing and apply to future years. We expect that our internal controls will continue to evolve as our business activities change. During the course of management s and our independent registered public accounting firm s review of our internal control over financial reporting as of December 31, 2006, we did not identify any significant control deficiencies that arose to the level of material weaknesses, as defined by the Public Company Accounting Oversight Board (PCAOB). Although we will continue to diligently and vigorously review our internal control over financial reporting, in order to ensure compliance with the Section 404 requirements, any control system, regardless of how well designed, operated and evaluated, can provide only reasonable, not absolute, assurance that its objectives will be met.

If, during any year, our independent registered public accounting firm is not satisfied with our internal control over financial reporting or the level at which this control is documented, designed, operated, tested or assessed, or if the independent registered public accounting firm interprets the requirements, rules or regulations differently than we do, then our independent registered public accounting firm may decline to attest to management s assessment or may issue a report that is qualified. This could result in an adverse reaction in the financial marketplace due to a loss of investor confidence in the reliability of our financial statements, which ultimately could negatively impact the market price of our stock.

Anti-Takeover Provisions In Our Charter Documents, Our Stockholder Rights Agreement And Delaware Law May Prevent Or Delay Removal Of Incumbent Management Or A Change Of Control. Anti-takeover provisions of our Certificate of Incorporation, as amended, our Amended and Restated Stockholders Rights Agreement and Delaware law may have the effect of deterring or delaying attempts by our stockholders to remove or replace management, engage in proxy contests and effect changes in control. The provisions of our charter documents include the ability of our board of directors to issue

shares of preferred stock without approval of all our stockholders upon the terms and conditions and with the rights, privileges and preferences as our board of directors may determine.

The Rights issued pursuant to our Amended and Restated Stockholder Rights Agreement will become exercisable, subject to certain exceptions, after a person or group announces acquisition of 20% or more of our common stock or

announces commencement of a tender or exchange offer the consummation of which would result in ownership by the person or group of 20% or more of our common stock.

In addition, as a Delaware corporation, we are subject to Delaware law, including Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder unless certain specific requirements are met as set forth in Section 203.

These provisions, alone or together, could have the effect of deterring or delaying changes in incumbent management, proxy contests or changes in control.

ADDITIONAL OR UPDATED RISK FACTORS

Prior to making an investment decision with respect to the common stock offered hereby, prospective investors should also carefully consider any specific factors set forth under a caption risk factors in any applicable prospectus supplement, together with all of the other information appearing in this prospectus or the prospectus supplement or incorporated by reference into this prospectus.

USE OF PROCEEDS

We will not receive any proceeds from the sale by any selling stockholder of the shares of our common stock offered by this prospectus.

SELLING STOCKHOLDERS

Up to 165,000 shares of our common stock are being offered by this prospectus, all of which are being registered for the accounts of the selling stockholders, including:

- 75,000 shares of restricted Common Stock issued on May 4, 2007 to Avtar Dhillon, the Company s President and Chief Executive Officer, pursuant to the Plan prior to the date of this prospectus as bonus compensation for services rendered to the Company in 2006;

- 45,000 shares of restricted Common Stock issued on May 4, 2007 to Iacob Mathiesen, a non-executive employee pursuant to the Plan prior to the date of this prospectus, as bonus compensation for services rendered to the Company in 2006; and

- 45,000 shares of restricted Common Stock issued on May 4, 2007 to Iacob Mathiesen pursuant to the Plan prior to the date of this prospectus, vesting as of December 1, 2009, contingent upon Mr. Mathiesen s continued employment by the Company at that time.

Each of the transactions by which the selling stockholders acquired their securities from us was exempt under the registration provisions of the Securities Act of 1933, as amended, and pursuant to the 2007 Plan.

The shares of common stock referred to above are being registered to permit public sales of the shares, and the selling stockholders may offer the shares for resale from time to time pursuant to this prospectus. The selling stockholders may also sell, transfer or otherwise dispose of all or a portion of their shares in transactions exempt from the registration requirements of the Securities Act or pursuant to another effective registration statement covering those shares. We may from time to time include additional selling stockholders in supplements or amendments to this prospectus.

The table below sets forth certain information regarding the selling stockholders and the shares of our common stock offered by them in this prospectus. The selling stockholders have not had a material relationship with us within the past three years other than as our employees as described in the footnotes to the table below. To our knowledge, subject to community property laws where applicable, each person named in the table has sole voting and investment power with respect to the shares of common stock set forth opposite such person s name.

Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission, or SEC. In computing the number of shares beneficially owned by a selling stockholder and the percentage of ownership of that selling stockholder, shares of common stock underlying shares of our convertible preferred stock, options or warrants held by that selling stockholder that are convertible or exercisable, as the case may be, within 60 days of May 4, 2007 are included. Those shares, however, are not deemed outstanding for the purpose of computing the percentage ownership of any other selling stockholder. Each selling stockholder s percentage of ownership of our outstanding shares in the table below is based upon 38,824,568 shares of common stock outstanding as of May 4, 2007.

Selling Stockholder (1)	Number of Shares of common stock beneficially owned		Number of Shares which May Be Offered (2)	Number of Shares to be Owned After Offering (3)	Percentage of Common Stock Beneficially Owned After Offering	
Avtar Dhillon, M.D.						
President and Chief Executive Officer	914,172	(4)	75,000	(6) 839,172	2.12	%
Iacob Mathiesen						
Employee of the Company	298,629	(5)	90,000	(7) 208,629	*	
Total			165,000			

* less than one percent

(1) This table is based upon information provided by the selling stockholders.

(2) Includes shares granted under the 2007 Omnibus Incentive Plan on or before the date of this prospectus.

(3) Represents the amount of shares that will be held by the selling stockholders after completion of this offering based on the assumptions that (a) all shares registered for sale by the registration statement of which this prospectus is part will be sold and (b) that no other shares of our common stock beneficially owned by the selling stockholders are acquired or are sold prior to completion of this offering by the selling stockholders. However, the selling stockholders may sell all, some or none of the shares offered pursuant to this prospectus and may sell other shares of our common stock that they may own pursuant to another registration statement under the Securities Act of 1933 or sell some or all of their shares pursuant to an exemption from the registration provisions of the Securities Act, including under Rule 144. To our knowledge there are currently no agreements, arrangements or understanding with respect to the sale of any of the shares that may be held by the selling stockholders after completion of this offering or otherwise.

(4) Includes 2,941 shares underlying Series C Preferred Stock and 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of May 4, 2007, 774,996 shares of common stock issuable pursuant to options exercisable within 60 days of May 4, 2007, and 75,000 shares of restricted common stock granted pursuant to our 2007 Omnibus Incentive Plan prior to the date of this prospectus, of which 18,750 have vested or will vest within 60 days of May 4, 2007. We have been advised that the selling stockholder is not a broker-dealer or an affiliate broker-dealer.

(5) Includes 21,250 shares underlying options that are convertible or exercisable within 60 days of May 4, 2007, and 90,000 shares of restricted common stock granted pursuant to our 2007 Omnibus Incentive Plan prior to the date of this prospectus, of which 45,000 shares have vested. We have been advised that the selling stockholder is not a broker-dealer or an affiliate broker-dealer.

(6) Includes 75,000 shares of restricted common stock granted pursuant to the 2007 Omnibus Incentive Plan prior to the date of this prospectus, of which 18,750 are vested; the remainder vest 18,750 on each anniversary date until 2010.

(7) Includes 90,000 restricted shares of common stock granted pursuant to the 2007 Omnibus Incentive Plan prior to the date of this prospectus, of which 45,000 are vested; the remainder vest on December 1, 2009, contingent on Mr. Mathiesen s continued employment by the Company on that date.

PLAN OF DISTRIBUTION

We are registering the shares of common stock on behalf of the selling stockholders. Sales of shares may be made by selling stockholders, including their respective donees, transferees, pledgees or other successors-in-interest directly to purchasers or to or through underwriters, broker-dealers or through agents. Sales may be made from time to time on the American Stock Exchange, any other exchange upon which our shares may trade in the future, in the over-the-counter market or otherwise, at market prices prevailing at the time of sale, at prices related to market prices, or at negotiated or fixed prices. The shares may be sold by one or more of, or a combination of, the following:

- A block trade in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction (including crosses in which the same broker acts as agent for both sides of the transaction);

- Purchases by a broker-dealer as principal and resale by such broker-dealer, including resales for its account, pursuant to this prospectus;

- Ordinary brokerage transactions and transactions in which the broker solicits purchases;

- Through options, swaps or derivatives;

- In privately negotiated transactions;

- In making short sales or in transactions to cover short sales; and

- Put or call option transactions relating to the shares.

The selling stockholders may effect these transactions by selling shares directly to purchasers or to or through broker-dealers, which may act as agents or principals. These broker-dealers may receive compensation in the form of discounts, concessions or commissions from the selling stockholders and/or the purchasers of shares for whom such broker-dealers may act as agents or to whom they sell as principals, or both (which compensation as to a particular broker-dealer might be in excess of customary commissions). The selling stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their securities.

The selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with those transactions, the broker-dealers or other financial institutions may engage in short sales of the shares or of securities convertible into or exchangeable for the shares in the course of hedging positions they assume with the selling stockholders. The selling stockholders may also enter into options or other transactions with broker-dealers or other financial institutions which require the delivery of shares offered by this prospectus to those broker-dealers or other financial institutions. The broker-dealer or other financial institution may then resell the shares pursuant to this prospectus (as amended or supplemented, if required by applicable law, to reflect those transactions).

The selling stockholders and any broker-dealers that act in connection with the sale of shares may be deemed to be underwriters within the meaning of Section 2(11) of the Securities Act of 1933, and any commissions received by broker-dealers or any profit on the resale of the shares sold by them while acting as principals may be deemed to be underwriting discounts or commissions under the Securities Act. The selling stockholders may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of the shares against liabilities, including liabilities arising under the Securities Act. We have agreed to indemnify each of the selling stockholders and each selling stockholder has agreed, severally and not jointly, to indemnify us against some liabilities in connection with the offering of the shares, including liabilities arising under the Securities Act.

The selling stockholders will be subject to the prospectus delivery requirements of the Securities Act. We have informed the selling stockholders that the anti-manipulative provisions of Regulation M promulgated under the Securities Exchange Act of 1934 may apply to their sales in the market.

Selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act, provided they meet the criteria and conform to the requirements of Rule 144.

Upon being notified by a selling stockholder that a material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering, exchange distribution or secondary distribution or a purchase by

a broker or dealer, we will file a supplement to this prospectus, if required pursuant to Rule 424(b) under the Securities Act, disclosing:

- The name of each such selling stockholder and of the participating broker-dealer(s);
- The number of shares involved;
- The initial price at which the shares were sold;
- The commissions paid or discounts or concessions allowed to the broker-dealer(s), where applicable;
- That such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus; and
- Other facts material to the transactions.

In addition, if required under applicable law or the rules or regulations of the Commission, we will file a supplement to this prospectus when a selling stockholder notifies us that a donee or pledgee intends to sell more than 500 shares of common stock.

We are paying all expenses and fees in connection with the registration of the shares. The selling stockholders will bear all brokerage or underwriting discounts or commissions paid to broker-dealers in connection with the sale of the shares.

LEGAL MATTERS

The validity of the issuance of the shares offered by this prospectus will be passed upon for us by Kirkpatrick & Lockhart Preston Gates Ellis LLP, Los Angeles, California.

EXPERTS

The consolidated financial statements of Inovio Biomedical Corporation incorporated by reference in Inovio Biomedical Corporation s Annual Report (Form 10-K) for the year ended December 31, 2006, and Inovio Biomedical Corporation management s assessment of the effectiveness of internal control over financial reporting as of December 31, 2006 included therein, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements and management s assessment are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

DISCLOSURE OF COMMISSION POSITION ON

INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, may be permitted to our directors, officers or persons controlling us, we have been advised that it is the SEC s opinion that such indemnification is against public policy as expressed in the Securities Act of 1933, as amended, and is, therefore, unenforceable.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and special reports, along with other information with the SEC. You may read and copy any document we file at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our common stock is traded on The American Stock Exchange. You may inspect reports and other information concerning us at the offices of the American Stock Exchange, Inc., 86 Trinity Place, New York, New York 10006. These filings and other information may also be inspected without charge at a Web site maintained by the SEC. The address of the site is http://www.sec.gov.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

This prospectus is part of a registration statement filed with the SEC. The SEC allows us to incorporate by reference into this prospectus the information that we file 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, and information that we file later with the SEC will automatically update and supersede this information. The following documents were filed with the SEC pursuant to the Exchange Act and are incorporated by reference and made a part of this prospectus:

- our Annual Report on Form 10-K for the year ended December 31, 2006 filed with the SEC on March 16, 2007;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2007, filed with the SEC on May 9, 2007;
- our Current Reports on Form 8-K filed with the SEC on March 16, 2007 and April 3, 2007;
- our definitive proxy statement filed with the SEC on April 3, 2007; and
- the description of our capital stock contained in our registration statement on Form 8-A filed with the SEC on December 4, 1998, including any amendment or report filed for the purpose of updating such description.

The documents listed above and all documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 subsequent to the date of this initial registration statement and prior to effectiveness of this registration statement, or prior to the filing of a post-effective amendment that indicates that all securities offered herein have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference into this prospectus and to be a part hereto from the date of filing such documents.

Any statement contained in a document that is incorporated by reference will be modified or superseded for all purposes to the extent that a statement contained in this prospectus, or in any other document that is subsequently filed with the SEC and incorporated by reference, modifies or is contrary to that previous statement. Any statement so modified or superseded will not be deemed a part of this prospectus except as so modified and superseded.

We will provide without charge to each person to whom this prospectus is delivered, upon oral or written request, a copy of any or all of the foregoing documents incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates). Written or telephone requests should be directed to Shareholder Relations at Inovio Biomedical Corporation, 11494 Sorrento Valley Road, San Diego, CA 92121-1318, telephone number (858) 597-6006. Our website address is www.inovio.com.

You should rely only on the information contained or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized anyone else to provide you with different or additional information. The selling stockholders will not make an offer of these shares in any state where the offer is not permitted. You should not assume that the information in this prospectus or any supplement is accurate as of any date other than the date of those documents.

Prospective purchasers may rely only on the information contained in this prospectus. Neither Inovio Biomedical Corporation nor the selling shareholders have authorized anyone to provide prospective purchasers with information different from that contained or incorporated by reference in this prospectus. This prospectus is not an offer to sell nor is it seeking an offer to buy the shares of common stock being offered hereby in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus is correct only as of the date of this prospectus, regardless of the time of the delivery of this prospectus or any sale of common stock.

165,000 shares of Common Stock

REOFFER PROSPECUTS

May 15, 2007

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by the Registrant with the Securities and Exchange Commission (the Commission) pursuant to the Securities Exchange Act of 1934, as amended (the Exchange Act), are incorporated by reference into this Registration Statement:

(a) the Registrant s Quarterly Report on Form 10-Q for the three months ended March 31, 2007 filed with the Commission on May 9, 2007;

(b) the Registrant s Annual Report on Form 10-K for the year ended December 31, 2006 filed with the Commission on March 16, 2007;

(c) the Registrant s Proxy Statement on Schedule 14A filed with the Commission on April 3, 2007;

(d) the Registrant s Current Reports on Form 8-K filed with the Commission on March 16, 2007 and April 3, 2007;

(e) the description of the Registrant s common stock contained in Registrant s Registration Statement on Form 8-A, as filed with the Commission on December 4, 1998 under the Exchange Act, including any amendment or report filed for the purpose of updating such description; and

(f) all documents subsequently filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) under the Securities Exchange Act of 1934, as amended (the Exchange Act) after the date of this Registration Statement, but prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered hereby have been sold or that deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement. Each document incorporated by reference into this Registration Statement shall be deemed to be a part of this Registration Statement from the date of filing of such document with the Commission until the information contained therein is superseded or updated by any subsequently filed document which is incorporated by reference into this Registration Statement or by any document which constitutes part of the prospectus relating to the Plan meeting the requirements of Section 10(a) of the Securities Act.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

None.

Item 6. Indemnification of Directors and Officers.

Under Section 145 of the Delaware General Corporation Law (the DGCL), a corporation has the power to indemnify its directors and officers under certain prescribed circumstances and, subject to certain limitations, against certain costs and expenses, including attorneys fees, judgments, fines and amounts paid in settlement, actually and reasonably incurred in connection with any threatened, pending or completed action, suit or proceeding, whether criminal, civil, administrative or investigative, to which any of them is a party by reason of his being a director or officer of the corporation if it is determined that he acted in accordance with the applicable standard of conduct set forth in such statutory provision. The Registrant s Certificate of Incorporation provides that, pursuant to the DGCL, its directors shall not be liable for monetary damages for breach of the directors fiduciary duty of care to us and our stockholders. This provision in the Certificate of Incorporation does not eliminate the duty of care, and in appropriate circumstances equitable remedies such as injunctive or other forms of non-monetary relief will remain available under Delaware law. In addition, each director will continue to be subject to liability for breach of the director s duty of loyalty to the Registrant of its stockholders, for acts or omissions not in good faith or involving intentional misconduct or knowing violations of the law, for actions leading to improper personal benefit to the director, and for payment of dividends or approval of stock repurchases or redemptions that are unlawful under Delaware law. The provision also does not affect a director s responsibilities under any other law, such as the federal securities laws or state or federal environmental laws.

Section 7 of the Registrant s Bylaws provides that the Registrant will indemnify, to the fullest extent authorized by the DGCL, each person who was or is made a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was a director or officer of the Registrant, whether the basis of such proceeding is alleged action in an official capacity as a director or officer or in any other capacity while serving as a director or officer against all expenses, liability and loss reasonably incurred or suffered by such person in connection therewith. The Registrant also has directors and officers liability insurance.

Item 7. Exemption from Registration Claimed.

The securities that are to be reoffered or resold pursuant to this registration statement were issued pursuant to the 2007 Omnibus Incentive Plan in transactions that were exempt from registration pursuant to Section 4(2) of the Securities Act of 1933.

Item 8. Exhibits.

No.	Description
3.1	Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant s Registration Statement on Form S-3 (File No. 333-108752) filed on September 12, 2003)
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation as filed with the Delaware Secretary of State on September 10, 2004 (incorporated by reference to Exhibit 3.1 of the Registrant s Current Report on Form 8-K filed September 16, 2004)
3.3	Certificate of Amendment of the Amended and Restated Certificate of Incorporation as filed with the Delaware Secretary of State on March 31, 2005 (incorporated by reference to Exhibit 3.1 of the Registrant s Current Report on Form 8-K filed on April 4, 2005)
3.4	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 of the Registrant s Form 10-Q filed on November 13, 2002)
3.5	Amended and Restated Bylaws, as amended through August 12, 2005 (incorporated by reference to Exhibit 3.2 of the Current Report on Form 8-K filed on August 17, 2005)
4.1	Amended and Restated Stockholders Rights Agreement dated June 20, 1997 by and between the Registrant and Computershare Trust Company of Canada, as amended on March 25, 2003 (incorporated by reference to Exhibit A to the Registrant s Definitive Proxy Statement filed on April 28, 2003).
4.2	Inovio Biomedical Corporation 2007 Omnibus Stock Incentive Plan
4.3	Form of Restricted Stock Award Grants under the 2007 Omnibus Stock Incentive Plan
4.4	Form of Incentive and Non-Qualified Stock Option Grants under the 2007 Omnibus Stock Incentive Plan
5.1	Opinion of Kirkpatrick & Lockhart Preston Gates Ellis LLP
23.1	Consent of Kirkpatrick & Lockhart Preston Gates Ellis LLP (included in Exhibit 5.1)
23.2	Consent of Independent Registered Public Accounting Firm
24.1	Power of Attorney (included on signature page)

Item 9. **Undertakings.**

(a) 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 this 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 this registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or 15(d) of the Exchange Act that are incorporated by reference in this 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.

(b) 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 that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(h) 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 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California on this 14th day of May, 2007.

INOVIO BIOMEDICAL CORPORATION

By: /s/ Avtar Dhillon M.D.
Avtar Dhillon, M.D.
President and Chief Executive Officer

By: /s/ Peter D. Kies
Peter D. Kies
Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Avtar Dhillon, M.D., as his or her true and lawful attorney-in-fact and agent, with full power of substitution for him or her in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1933, as amended, this Registration Statement has been signed by the following persons on behalf of the issuer in the capacities and on the dates indicated.

Signature	**Capacity**	**Date**
/s/ Avtar Dhillon, M.D. Avtar Dhillon, M.D.,	President and Chief Executive Officer, Director	May 14, 2007
/s/ James L. Heppell James L. Heppell	Chairman of the Board and a Director	May 14, 2007
/s/ Riaz Bandali Riaz Bandali	Director	May 14, 2007
/s/ Simon X. Benito Simon X. Benito	Director	May 14, 2007
/s/ Tazdin Esmail Tazdin Esmail	Director	May 14, 2007
/s/ Robert W. Rieder Robert W. Rieder	Director	May 14, 2007

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