INOVIO BIOMEDICAL CORP
Form 10-K
March 31, 2009

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

ý **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2008

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

FOR THE TRANSITION PERIOD FROM TO
COMMISSION FILE NO. 001-14888

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**
(Address of principal executive offices)	(Zip Code)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE: **(858) 597-6006**

SECURITIES REGISTERED PURSUANT TO SECTION 12(B) OF THE ACT:

COMMON STOCK, $0.001 PAR VALUE	**NYSE Amex**
(Title of Class)	(Name of Each Exchange on Which Registered)

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT: **NONE**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No ý

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No ý

Indicate by check mark whether the Company (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ý

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company ý

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes o No ý

The aggregate market value of the voting and non-voting common equity (which consists solely of shares of Common Stock) held by non-affiliates of the Registrant as of June 30, 2008 was approximately $47,498,118 based on $1.08, the closing price on that date of the Registrant's Common Stock on the NYSE Amex.

The number of shares outstanding of the Registrant's Common Stock, $0.001 par value, was 44,041,800 as of March 16, 2009.

DOCUMENTS INCORPORATED BY REFERENCE

None.

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Unless stated to the contrary, or unless the context otherwise requires, references to "Inovio," "the company," "our company," "our," or "we" in this report include Inovio Biomedical Corporation and subsidiaries.

FORWARD-LOOKING STATEMENTS

This annual report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements with regards to our revenue, spending, cash flow, products, actions, intentions, plans, strategies and objectives. These statements are not based on historical facts or of current conditions. All such forward-looking statements are inherently uncertain. We have based those forward-looking statements on, among other things, projections and estimates regarding the economy in general, the biomedical industry and other factors that impact our results of operations and financial condition. Forward-looking statements include, without limitation, any statement that may predict, forecast, indicate or simply state future results, performance or achievements, and may contain the words "believe," "anticipate," "expect," "estimate," "intend," "plan," "project," "will be," "will continue," "will result," "could," "may," "might," "should" or any variations of such words with similar meanings, including the negatives of such words. Any such statements are subject to risks and uncertainties that could cause our actual results to differ materially from those which are management's current expectations or forecasts. Such information is subject to the risk that such expectations or forecasts, or the assumptions underlying such expectations or forecasts, become inaccurate and there can be no assurance that the forward-looking information in this report will in fact transpire or prove to be accurate. All subsequent written and oral forward looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by this introduction.

Our forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any results, levels of activity, performance or achievements expressed or implied by any forward-looking statements. Certain of these risks, uncertainties and other factors are discussed in Item 1A "Risk Factors" and elsewhere in this report. We operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and we cannot predict all such risk factors, nor can we assess the impact of all such risk factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements which reflect management's view only as of the date of this report, as a prediction of actual results. We undertake no obligation to amend this report or revise publicly these forward-looking statements (other than pursuant to requirements imposed on registrants pursuant to Item 1A under Part II of Form 10-Q) to reflect subsequent events or circumstances. Readers should also carefully review the risk factors described in other documents we file with the Securities and Exchange Commission, or SEC, particularly our quarterly reports on Form 10-Q, and the cautionary statements contained in our press releases from time-to-time which may contain forward-looking information.

Investors should also be aware that while we do, from time to time, communicate with securities analysts, we do not disclose any material non-public information or other confidential commercial information to them. Accordingly, individuals should not assume that we agree with any statement or report issued by any analyst, regardless of the content of the report. Thus, to the extent that reports issued by securities analysts contain any projections, forecasts or opinions, such reports are not our responsibility.

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PART I

ITEM 1. BUSINESS

Overview

Inovio Biomedical Corporation, or "Inovio," a Delaware corporation, organized in 2001, is a San Diego-based biomedical company focused on the development of next-generation vaccines to prevent or treat cancers and chronic infectious diseases. Such vaccines, which could potentially protect millions of people from debilitation or death from diseases without adequate treatments, may represent multi-billion dollar market opportunities. Historically, successful development of this new generation of vaccines DNA vaccines has been hindered by the lack of safe, efficient and cost effective DNA delivery methods capable of enabling their potency. However, Inovio's electroporation-based DNA delivery technology has shown potential in pre-clinical and clinical studies to play a pivotal role in facilitating delivery and enhancing the potency of preventive and therapeutic vaccines.

Inovio is a leader in developing DNA delivery solutions based on electroporation, which uses brief, controlled electrical pulses to create temporary pores in cell membranes and enable increased cellular uptake of a useful biopharmaceutical. Once the DNA vaccine enters a cell, it can then "express" the proteins it was encoded to produce. These proteins, or antigens, are designed to be uniquely associated with a targeted cancer or infectious disease, and may then stimulate a more powerful immune response if the immune system encounters the targeted disease at a subsequent time.

Inovio's business strategy to realize value for the company and its stockholders is as follows:

First, Inovio has leveraged its patented technologies through licensing and collaborations, such as its licensing arrangements with Merck & Co., Inc., or "Merck," Wyeth Pharmaceuticals, or "Wyeth" and Vical Inc., or "Vical," among other research-driven biopharmaceutical companies as well as government and non-government agencies. Inovio is licensing the use of its electroporation-based DNA delivery systems for partners to use in conjunction with their proprietary DNA vaccines or DNA-based immunotherapies. These arrangements provide Inovio with some combination of upfront payments, development fees, milestone payments, royalties and a supply agreement. These partners are pursuing development of proprietary agents or conducting research using Inovio's technology. However, there is no assurance that these licensing partners will continue these electroporation-based activities. Currently, Merck has completed electroporation-based treatments in their initial Phase I cancer trial. Merck licensed from Inovio a second target in December of 2007 for which it has filed an IND. There is no assurance that Merck will continue to develop either program into a Phase II study. In addition, Wyeth continues to evaluate internal strategic options prior to initiating further development of electroporation-based infectious disease programs.

Second, Inovio is pursuing proprietary vaccine development or co-development, resulting in whole or partial ownership in promising vaccines to prevent or treat cancers and chronic infectious diseases.

Inovio's technology is protected by an extensive patent portfolio covering in vivo electroporation. Inovio's patent portfolio encompasses a range of apparatuses, methodologies, conditions, and applications including oncology, gene delivery, vascular, transdermal as well as ex vivo electroporation.

Inovio's Core Technology

Most drugs and biologics must enter into a cell through a cell membrane in order to perform their intended function. However, gaining entry into a cell through the outer cell membrane can be a significant challenge. In the 1970s it was discovered that the brief application of high-intensity, pulsed electric fields can create temporary and reversible permeability, or pores, in the cell membrane. This pulse-induced permeabilization of the cellular membrane is generally referred to as electroporation. One observable effect of cell membrane electroporation is less restricted exchange of molecules

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between the cell exterior and interior the benefit being that it allows and enhances the uptake of, for example, a biopharmaceutical agent previously injected into local tissue. The extent of membrane permeabilization depends upon various electrical, physical, chemical, and biological parameters.

The transient, reversible nature of this electrical permeabilization of membranes is the underlying basis of Inovio's electroporation instruments, which are designed to harness this phenomenon by delivering controlled electrical pulses into tissue to facilitate the uptake of useful biopharmaceuticals. Inovio's technology generates electric fields in target tissues to induce electroporation, which increases cellular uptake even for large molecules such as DNA. Most cell types and tissue can be successfully electroporated as long as applicators with the appropriate configuration of needle electrodes can be used to expose cells and tissues to the electric field.

DNA vaccines have potential as therapeutic agents for treating various diseases. One of the key obstacles to the successful development and commercialization of DNA vaccines has been the limitations associated with current delivery systems. Alternative approaches based on the use of viruses and lipids are complex and expensive, and have in the past created concerns regarding safety. Electroporation provides a straightforward, cost effective method for delivering DNA into cells with high efficiency and minimal complications (as compared to viral vectors) and, importantly, inducing clinically relevant levels of gene expression.

Inovio has multiple systems designed to create different electroporation conditions for different applications. The current systems consist of two basic components: a pulse generator and an applicator that is inserted into selected tissue.

MedPulser® DNA Electroporation System

Inovio's MedPulser® DNA Electroporation System was designed to create conditions to deliver DNA into tumor cells that promote optimal responses to gene-based immunotherapeutic cytokines. The cytokine-encoding plasmid is first injected with a syringe/needle into the selected tumor. Using a remote control, the pulse generator is switched on. High-voltage electrical pulses are generated and delivered through an attached electrical cord into the injected tissue through an electrode-needle array on the applicator. The electrode-needle array consists of a total of six needle-electrodes. The needle-electrode arrays are available in different sizes and configurations to facilitate access to tumors of different sizes and in different locations.

MedPulser® DNA Delivery System

The MedPulser® DNA Delivery System (DDS) was developed to optimize the delivery of DNA into muscle cells. The modified system is similar to the MedPulser® Electroporation System. The primary differences are in the parameters of the electric pulses delivered by the generator and the needle- electrode configuration of the applicator. The pulse is designed specifically for DNA delivery with a lower strength electrical field of longer duration than for tumor electroporation. The applicator has a four needle-electrode array consisting of one set of opposite pairs. They are available in a range of configurations to meet the requirements of a variety of applications.

Elgen System

The Elgen® DNA Delivery System, Inovio's newest generation of electroporation systems, is designed primarily for muscle delivery. It consists of a computer-controlled, motorized two needle delivery device that injects DNA and delivers electroporation pulses through one pair of needles. An earlier prototype version of this experimental system is currently under evaluation in Inovio's clinical trial for a prostate cancer vaccine at the University of Southampton in the U.K.

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Choice of Tissue for DNA Delivery

Muscle Delivery

Inovio's proprietary electroporation method consists of a DNA delivery system designed to introduce a plasmid vector into muscle, skin or tumor tissue. The plasmid(s) may be encoded for therapeutic protein(s) for gene therapy, or antigens for immunization.

Skeletal muscle has been a core focus because it is mainly composed of large elongated cells with multiple nuclei. Muscle cells are non-dividing, hence long-term expression can be obtained without integration of the gene of interest into the genome. Muscle cells have been shown to have a capacity for secretion of proteins into the blood stream. Secreted therapeutic proteins may therefore act systemically and produce therapeutic effects in distant tissues of the body. In this respect, the muscle functions as a factory for the production of the biopharmaceutical needed by the body. It is envisioned that delivery of DNA by electroporation to muscle cells will circumvent the costly and complicated production procedures of viral gene delivery vectors, protein-based drugs, conventional vaccines and monoclonal antibodies. This approach may therefore provide long-term stable expression of a therapeutic protein or monoclonal antibody at a sustained level.

For vaccination the DNA cause muscle cells to produce antigenic proteins that the immune system will identify as foreign and against which it will mount an immune response. As with conventional vaccines, the immune system will then develop memory of this antigen (and related disease) for future reference. Intra muscular delivery by electroporation of DNA encoded antigens has been shown to induce both humoral (antibody) and cellular (T-cell) immune responses. Inovio is currently collaborating in three clinical programs (Merck, Tripep and the University of Southampton) related to DNA delivery to muscle for immunization.

Tumor Delivery

Inovio has an extensive intellectual property position relating to *in vivo* delivery of genes directly into tumor cells. Tumor cells can be readily transfected with genes encoding selected cytokines or potentially lethal proteins for the treatment of a variety of cancers. The goal of effective tumor delivery is the ultimate elimination of the transfected tumor, and Inovio has experienced very few concerns regarding the safety of the procedure in its trials to date. A Phase I/II clinical immunotherapy trial conducted by Vical was designed to deliver IL-2 directly to accessible melanoma lesions. In December 2008, Inovio announced final results of a similar clinical study conducted by Moffitt to deliver IL-12 directly to accessible melanoma lesions.

Skin Delivery

While Inovio has generated preclinical and preliminary clinical evidence that intramuscular electroporation-based DNA delivery will be effective for a number of vaccines, electroporation of the skin may also be a relevant route of administration. Skin or intradermal administration is important and is becoming an attractive site for immunization given its high density of antigen presenting cells (APCs). Unlike muscle, skin is the first line of defense against most pathogens and is therefore very rich in immune cells and molecules. Skin specifically contains certain cells that are known to help in generating a robust immune response. With intradermal administration of electroporation, Inovio may be able to demonstrate a comparable immune response to muscle delivery. Inovio will continue to invest research and patenting resources into developing a viable skin electroporation system for clinical evaluation.

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Applications of DNA Vaccine Technology

Inovio and its partners are developing DNA delivery technology for two broad applications:

Cancer

Cancer is a disease of uncontrolled cell growth. Although cancer has been a major focus of pharmaceutical companies for decades, cancer remains one of the leading causes of death in the United States. Traditionally, three approaches have been available for treatment of cancer: surgery, radiation therapy, and chemotherapy. When detected early and still confined to a single location, cancer may be cured by surgery or radiation therapy. However, neither surgery nor radiation therapy can cure cancer that has spread throughout the body. Although chemotherapy can sometimes effectively treat cancer that has spread throughout the body, a number of non-cancerous cells, such as bone marrow cells, are also highly susceptible to chemotherapy. As a result, these types of treatments cause significant side effects and morbidity. Finally, it is common to see cancer return after apparently successful treatment by each of these means. The limitations of current cancer treatments are clearly demonstrated by the mortality rate of this disease.

For many decades, it has been suggested that the immune system should also be able to recognize cancer cells as abnormal and destroy these cells. However, cancer cells have developed mechanisms that allow them to escape the surveillance of the immune system. Immunotherapy, a process which uses the patient's own immune system to treat cancer, may have advantages over surgery, radiation therapy, and chemotherapy. Many cancers appear to have developed the ability to "hide" from the immune system. A treatment that can augment the immune response against tumor cells by making the cancer more "visible" to the immune system would likely represent a significant improvement in cancer therapy. Immune- enhancing proteins such as IL-2 and IL-12, used by partners in Phase I/II trials, have shown encouraging results. There is also a need to stimulate a stronger cellular immune response (i.e. generating T-cells) to specifically attack cancerous cells. This requires the use of technology such as DNA vaccines.

Electroporation offers effective delivery of DNA and may help Inovio develop novel cancer therapies. Inovio's current clinical-stage approaches consist of directly injecting tumors with certain plasmids followed by intratumoral electroporation as well as directly delivering certain plasmids into muscle followed by intramuscular electroporation. Upon uptake into cells, the plasmid directs the production of the encoded immunostimulatory proteins. The convenience and ability to repeat administration may offer advantages over current modalities of therapy. In addition, cancer therapies using non-viral DNA delivery may offer an added margin of safety compared with viral-based delivery, as no viral DNA/RNA or viral particles are contained in the formulation. Studies in animals have demonstrated the safety and potential efficacy of electroporation-based delivery. Subsequently, in human studies, a very low incidence of treatment- related serious adverse events has been observed.

In addition to immunotherapy approaches, numerous cancer antigens have been identified over the past few decades and better identification tools are under development by others. Inovio will continue to evaluate opportunities to acquire or partner cancer antigens that may be useful for large market cancers such as breast, lung and prostate.

Infectious Diseases

DNA vaccines for infectious diseases use portions of the genetic code of a pathogen to cause the host to produce proteins of the pathogen that may induce an immune response. Compared with conventional vaccines that use live, weakened, or dead pathogens to produce an immune response, this method potentially offers superior safety and ease of manufacturing, as well as convenient storage and handling characteristics. DNA vaccines have the potential to induce potent T-cell responses against target pathogens as well as trigger production of antibodies. Over the past decade, many scientific

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publications have documented the effectiveness of DNA vaccines in contributing to immune responses in dozens of species, including non-human primates and humans. Since electroporation can increase uptake of DNA into cells, it may consequently increase the potency of DNA vaccines. Increased T-cell responses and antibody production when DNA vaccines are delivered using electroporation has been demonstrated in a large number of species including non human primates.

Vaccines are generally recognized as the most cost-effective approach for infectious disease healthcare. However, the technical limitations of conventional vaccine approaches have constrained the development of effective vaccines for many diseases. Development of vaccines based on conventional methods requires significant infrastructure in research and manufacturing. In addition, the safety risks associated with certain conventional vaccine approaches may offset their potential benefits. Inovio believes its potential vaccine products may be simpler to manufacture than vaccines made using live viruses or protein subunit approaches, including those involving mammalian, avian or insect cells, or egg-based culture procedures. In addition, Inovio's DNA delivery technologies may accelerate certain aspects of vaccine product development such as non-clinical evaluation and manufacturing.

Similar to the requirements for fighting cancer, it is apparent that an effective approach for addressing chronic infections, which are also deadly and debilitating, requires the ability to generate a strong cellular immune response. This new generation of vaccines DNA vaccines is showing this capability. In addition to the targets already partnered, Inovio has been evaluating other potential disease targets in its internal development program.

Business Strategy

Inovio's objective is to be a biomedical company focused on developing and commercializing products that address significant unmet medical needs and, as a result, improve patients' quality of life. To achieve this objective, Inovio's business strategy currently includes the following key elements.

Therapeutic Drug and DNA Delivery

Inovio develops equipment designed to enable the use of electroporation to achieve efficient and cost-effective delivery into patients of DNA vaccines targeting a variety of illnesses. Although there are many diseases for which improved drug or DNA delivery is important, Inovio believes that its greatest opportunities lie in applying electroporation to DNA-based therapies (including immunotherapy) in the areas of cancer and chronic infectious diseases.

Advancing Inovio's Product Pipeline

The strategy to advance Inovio's product pipeline has two key components: Inovio has leveraged its patented technologies through licensing arrangements with companies such as Merck, Wyeth and Vical, among other research-driven biopharmaceutical companies, as well as collaborations with government and non-government agencies. These partners are pursuing development of proprietary agents or conducting research using Inovio's electroporation-based DNA delivery systems. Resources used to support Inovio's partners in these efforts are funded by its partners. In addition, these arrangements provide Inovio with some combination of upfront payments, development fees, milestone payments, royalties and a supply agreement.

In addition to expanding and providing electroporation delivery expertise, Inovio is directing resources to proprietary vaccine development or co-development, resulting in whole or partial ownership in DNA vaccine candidates. Inovio is focusing on the development of DNA-based therapies in the areas of cancer and chronic infectious diseases. The selection of targets for Inovio's independent or co-development programs is driven by four key criteria: complexity of the product development program, competition, cost of development and commercial opportunities. Inovio intends to retain significant participation in product development and commercialization of any DNA vaccines and

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therapeutics in pre-clinical and human trials that receive regulatory approval, although it may choose to secure additional partnerships to accelerate product development and commercialization. Inovio currently has a collaborative commercialization agreement with Tripep AB to co-develop a novel DNA hepatitis C virus (HCV) therapeutic vaccine.

Expand Market Opportunity

Inovio is continually evaluating and implementing opportunities to enhance its core technologies and assessing other DNA delivery technologies. Inovio is developing future product candidates based on these technologies through pre-clinical and clinical testing to determine their safety and efficacy. Inovio also seeks to develop additional applications for its technologies by testing new approaches to disease control or prevention. These efforts could lead to further independent product development or licensing opportunities. In addition, Inovio continually evaluates compatible technologies or products that may be of potential interest for in-licensing or acquisition.

Expand the Application of Inovio's Technologies and Enable Product Development Through Strategic Collaborations

In pre-clinical trials and early clinical trials, Inovio's technology has enabled high levels of DNA uptake and gene expression without significant acute side effects. Based on the results obtained, Inovio believes that its technology is well positioned and is as capable as competing technologies to meet the delivery requirements for DNA vaccines and immunotherapy. Inovio's strategy is to develop DNA vaccine and immunotherapy applications with major pharmaceutical, biotechnology and government agency partners wherever reasonable and/or possible to license its DNA delivery technology for specific genes or specific medical indications. In most partnering situations, Inovio provides proprietary instruments and expertise to optimize the delivery of DNA for particular applications and the partner company provides its proprietary gene, allowing Inovio access to complementary technologies or greater resources. Inovio believes that entering into selective collaborations as part of its product development programs can enhance the success of Inovio's product development and commercialization, diversify Inovio's product portfolio and enable Inovio to better manage its operating costs. Inovio's collaboration with partners allows pre-clinical research, clinical trials and mutually beneficial opportunities to expand Inovio's product pipeline, which may lead to the introduction of a new treatment and/or products in the marketplace at a rate and range which Inovio may not be able to support on its own. Additionally, such collaborations enable Inovio to leverage investment by its collaborators and reduce its net cash burn while retaining significant economic rights. Inovio's goal is to enter into additional agreements to license its electroporation technology for use in the delivery of DNA for specific targets.

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Products and Product Development

Together with Inovio's licensees and collaborators, Inovio is currently developing a number of DNA-based vaccines and therapeutics for the prevention or treatment of cancer and chronic infectious diseases. Inovio's current independent development focus is on these areas as well. The table below summarizes progress in Inovio's independent, collaborative and out-licensed product development programs as of December 5, 2008.

		Pre-Clinical Studies		Development Status				
Product Area	Product Target and Indication(s)	In Vitro	In Vivo	Phase I	Phase II	Phase III	Phase IV	Development
DNA Delivery Immunotherapy	Malignant Melanoma	X	X	X				Moffitt/RMR
	Metastatic Melanoma	X	X	X *				Vical
DNA Delivery Tumor-associated antigen therapeutic vaccines	HER-2 and CEA-expressing cancers	X	X	IP				Merck
	Prostate Cancer	X	X	IP				Univ. of Southampton
	hTERT-expressing cancers	X	X	IP				Merck
	Unspecified Cancer	X	X					Inovio
DNA Delivery Infectious disease vaccine	HCV Vaccine	X	X	IP				Tripep/Inovio
	CMV Vaccine	X	X					Vical
	Unspecified Targets	X	X					Wyeth
	Biodefense Targets	X	IP					US Army
	HIV Vaccine	X	IP					National Cancer Institute
		X	IP					International AIDS Vaccine Initiative
	HIV Vaccine							
	Unspecified Targets	X	IP					Inovio

X = Completed

IP = In Progress

* = Final data pending

DNA Vaccines and Immunotherapies

The technical limitations of conventional vaccine approaches have constrained the development of effective vaccines for many diseases. In addition, the safety risks associated with certain conventional vaccine approaches may offset their potential benefits. In the broader vaccine marketplace, it is important to note a changing dynamic. Traditionally, vaccines have been predominantly focused on the pediatric market, intended to protect children from diseases that could cause them serious harm. Today, there is a growing interest in vaccines against diseases that may affect adolescents and adults, which include both sexually transmitted diseases and infections that strike opportunistically, such as during pregnancy or in immuno-compromised individuals, including the geriatric population. Inovio believes its technologies, because of their potential safety and development time advantages, could be ideally suited for the development of this new generation of vaccines. Preclinical studies in animals have demonstrated the safety and potential efficacy of this approach.

DNA vaccines are intended to prevent a disease (prophylactic vaccines) or to treat an existing disease (therapeutic vaccines). A DNA vaccine consists of DNA plasmid molecules encoding a selected antigen or fragment of an antigen that are introduced into cells of humans or animals with the purpose of evoking an immune response to the encoded antigen. Information encoded in the vaccine DNA plasmid molecules

directs the cells to produce proteins that may then trigger the immune system to mount one or both of two responses: the production of antibodies, also known as humoral immune

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response, and/or the activation of T-cells and "killer cells," collectively termed cell-mediated immune response. These responses can neutralize or eliminate infectious agents (viruses, bacteria, and other microorganisms) or abnormal cells (e.g. malignant tumor cells). DNA vaccines have several advantages over traditional vaccines in that they are non-pathogenic (meaning they cannot cause the disease), may be effective against diseases which cannot be controlled by traditional vaccines, and are relatively fast, easy and inexpensive to design and produce. DNA vaccines are stable under normal environmental conditions for extended periods of time and do not require continuous refrigeration. Another potentially major advantage of DNA vaccines is their short development cycle. For example, DNA vaccines against newly identified viral agents may be developed within weeks or months, as opposed to the years often required to develop a traditional vaccine candidate.

DNA vaccines against cancer use a portion of the genetic code of a cancer antigen to cause a host to produce proteins of the antigen that may induce an immune response.

Inovio has acquired considerable expertise in the delivery and efficacy evaluation of DNA vaccines, both against infectious agents and complex diseases, such as cancer. In most cases Inovio has chosen skeletal muscle as the target tissue for vaccine delivery as this muscle is known to facilitate robust and long-lasting immune responses. However, skin is also an attractive target for DNA vaccination and Inovio has developed and patented technology for DNA delivery into skin cells as well.

Inovio is building a DNA franchise around the use of Inovio's proprietary electroporation technology together with gene-based treatments. Inovio's development efforts involve license agreements with Wyeth, Merck and Vical, in which these companies are supporting the development and registration of therapies using Inovio's devices. To date, most of Inovio's DNA vaccine development programs have been primarily initiated by corporate partners who sustain the majority of the development expenses and have the ability to conduct the commercialization activities.

Cancer: DNA-Based Immunotherapies

In December 2004, Inovio initiated a Phase I clinical trial sponsored by the H. Lee Moffitt Cancer Center using its MedPulser® DNA Electroporation System to deliver plasmid DNA coding for IL-12 to tumors with the aim of treating malignant melanoma. The study was designed to assess the use of electrical pulses generated by Inovio's proprietary electroporation technology to deliver into tumor cells a plasmid DNA encoding a cytokine, interleukin-12, which stimulates adaptive and innate immunity. In December, 2008, Inovio reported that final results of this trial was presented in the peer-reviewed *Journal of Clinical Oncology* in a paper prepared by Drs. Adil Daud, Richard Heller et al, titled, "Phase I Trial of Interleukin-12 Plasmid Electroporation in Patients With Metastatic Melanoma."

The paper concluded: "This first human trial, to our knowledge, of gene transfer utilizing in vivo DNA electroporation in metastatic melanoma showed that it is safe, effective, reproducible, and titratable." The findings showed not only regression of treated melanoma skin lesions, but also regression of distant untreated lesions, suggesting a systemic immune response to the localized treatment.

Highlights of the study results, as reported in the paper, include:

Twenty-four patients were enrolled in seven cohorts with escalating dose levels of plasmid IL-12 between December 2004 and February 2007. Locally injected plasmid IL-12 was followed by electroporation.

The experimental regimen was found to be safe and well tolerated, with minimal systemic toxicity. Because there was no dose-limiting toxicity in cohorts one through five, the experimental plan was amended to add two additional cohorts. Transient pain with the administration of the electrical pulses was the most frequent adverse event experienced by patients.

The study demonstrated significant and dose-dependent increases in intratumoral IL-12 protein expression and concomitant increases in intratumoral levels of IFN-γ.

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Sixty lesions (76%) were observed to have greater than 20% necrosis (death of tumor cells), with 19 (24%) having 50% - 99% necrosis, and 25 (32%) having 100% necrosis.

Ten subjects (53%) showed evidence of a systemic response (either stable disease or a complete response) during the study.

Injected lesions and distant non-injected lesions showed regression after treatment. Of 19 patients with additional sites of disease outside of the treated lesions, two (10%) with untreated distant lesions and no other systemic therapy showing complete regression of all metastases. These responses occurred over 6 - 18 months, with gradual volume loss occurring at sites distinct from the electroporated sites, arguing for immune system involvement. Neither of these patients has developed any new evidence of distant disease to date. Six of 19 (32%) showed disease stabilization lasting from 4 - 20 months.

Electroporated tumors demonstrated CD4+ and CD8+ lymphocytic infiltrate in the treated lesions.

In July 2005, Inovio announced, along with its partner, Vical, the initiation of a human Phase I clinical study of an investigational method of delivering plasmid DNA coding for interleukin-2 (IL-2), a potent immune system stimulant, for patients with recurrent metastatic melanoma. Intravenous delivery of IL-2 protein is already approved as a treatment for metastatic melanoma, but frequently causes severe systemic toxicities. The novel treatment approach being studied in this trial involves direct injection into a tumor lesion of plasmid DNA (pDNA) encoding IL-2, followed by electroporation in which local application of electrical pulses is intended to enhance the uptake of pDNA into tumor cells. The pDNA is designed to cause cells within the tumor to produce high levels of IL-2 protein locally and thereby stimulate the immune system to attack the tumor without the systemic toxicities associated with injected IL-2. Interim results on 19 patients from this trial were presented in June, 2007, and demonstrated that intratumoral delivery of pDNA encoding IL-2 into melanoma tumors, followed by electroporation, was administered safely following sedative premedication. No serious adverse events related to the study drug or to the administration procedure were reported and the treatment was well-tolerated. The majority of related adverse events were localized to the treatment site, with the most frequent being mild injection site pain. Individual tumor responses were seen in 12 of 39 (31%) evaluated tumors after injection of different escalating doses (0.5 to 5 mg per tumor). Treated tumors (7 of 18, or 38%) showed local responses more frequently than did untreated tumors (5 of 21, or 24%). No overall clinical responses by standard RECIST (Response Evaluation Criteria in Solid Tumors) criteria were observed among the 19 subjects evaluated following one or two cycles of treatment. Two subjects (11%) showed activity in distant, untreated tumors, including one subject showing shrinkage and disappearance of lung tumors. This trial has completed enrollment of 26 patients.

Cancer: DNA Vaccines

In April 2005, The University of Southampton initiated a U.K. Medicines and Healthcare products Regulatory Agency (MHRA) approved Phase I/II clinical trial undertaken in collaboration with Inovio. The study uses Inovio's electroporation technology to deliver a therapeutic plasmid-based DNA vaccine to skeletal muscle with the aim of treating recurrent prostate cancer. The trial, sponsored and led by the University of Southampton, is investigating whether the DNA vaccine, developed at the University of Southampton, can stimulate patients to develop immune responses against prostate cancer and whether use of Inovio's electroporation system enhances this response. In June, 2008, *Inovio* reported that Dr. Christian H. Ottensmeier, MD, PhD, Cancer Research UK Senior Clinical Research Fellow at the University of Southampton, presented updated interim data from this clinical study at the American Society of Gene Therapy 11th Annual meeting. The data reaffirmed that, post-treatment, this therapy has proven to be safe and well-tolerated. Additional data further validated higher levels of antibody

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and anti-DOM CD4 responses achieved in patients treated using electroporation. This academic study is a phase I/II study of 30 HLA A2+ patients with biochemical failure of prostate cancer. The study is testing a DNA fusion vaccine, developed in Southampton, encoding for an immunostimulant sequence from tetanus linked to a sequence from prostate specific membrane antigen (PSMA27). The study is also evaluating electroporation as a novel delivery strategy for DNA vaccines compared to DNA delivered without electroporation.

Patient enrollment for this study has been completed. Monitoring of antibody responses was completed for the 20 patients at the first and second dose levels. Monitoring of CD4 cellular immunity had been completed for the 10 patients at the lowest dose. These 10 patients had additionally been assessed for CD8 T-cell responses. Reported interim results included:

Vaccination with and without electroporation has been safe and well-tolerated.

14 of 20 patients developed increases in anti-DOM (the immunostimulant sequence from tetanus) antibody. Of these increased responses, 5 of 10 were in the arm not using electroporation; 9 of 10 were in the electroporation arm. Antibody responses were generally higher in patients treated using electroporation compared to those treated with the DNA vaccine alone (without electroporation).

In 9 of 10 patients in the low dose cohort, significant increases in CD4 responses were observed relative to pre-treatment. Of these increased responses, 4 of 5 were in the electroporation arm. Patients treated exclusively with electroporation produced a higher average CD4 response; patients initially treated without electroporation and later receiving a boost in conjunction with electroporation also displayed increased CD4 responses following the electroporation boost.

In the low dose cohort, the PSMA27 antigen induced CD8+ cytotoxic T-cells (measured by cultured IFNg ELISPOT) not detected before vaccination in 6 of 10 subjects.

In November 2005, Merck initiated a Phase I clinical trial of a DNA cancer vaccine based on Inovio's DNA gene delivery technology that uses pDNA encoding human epidermal growth factor receptor 2, or HER-2, and carcinoembryonic antigen, or CEA. As a result of Merck reaching this milestone, Inovio received a payment of $2.0 million. The Phase I trial is evaluating the safety, tolerability and immunogenicity of the vaccine.

In December 2007, Inovio received an additional $2.0 million milestone payment from Merck, resulting from the filing of a second Investigational New Drug (IND) application to the Food and Drug Administration ("FDA") by Merck for a DNA-based vaccine using Inovio's DNA delivery technology. The milestone relates to Inovio's collaboration and license with Merck initiated in May 2004 for the development of certain DNA vaccines. Further development of the product may lead to additional milestone payments and royalties to Inovio. Inovio received this milestone payment for its contribution to the collaboration, which has so far demonstrated the high level of gene delivery and expression that is thought to be necessary for the induction of a therapeutic immune response. Merck has funded all clinical development costs of these candidates to date.

As of October, 2008, Merck had begun to enroll patients for this study, which is using a DNA vaccine encoding for hTERT to target non-small cell lung and prostate cancers. The vaccine is delivered using Inovio's electroporation DNA delivery technology.

Inovio reported in September, 2008, that in a preclinical study of a proprietary DNA-based therapeutic vaccine, in mice with metastatic melanoma treated with a DNA vaccine via intramuscular delivery, six of eight (75%) were tumor-free at the conclusion of the study.

Numerous cancer antigens have been identified over the past few decades and better identification tools are under development by others. Inovio will continue to evaluate opportunities to acquire or partner cancer antigens that may be useful in large market cancers such as breast, lung and prostate.

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Infectious Diseases: DNA Vaccines

In January 2006, Inovio signed an agreement with Sweden-based Tripep to co-develop a therapeutic vaccine for hepatitis C virus (HCV) using electroporation. The vaccine is based on Tripep's proprietary HCV antigen construct and delivered to infected individuals using Inovio's MedPulser® DNA Delivery System. The study is being conducted at the Karolinska Institute's University Hospital in Sweden. The terms of the development agreement call for each party to fund a portion of the Phase I and subsequent Phase II trials and thereafter share profit according to their contribution. Inovio has 33% ownership in the overall product with the option to increase this to 50% after the completion of the Phase I/II trial.

In November, 2008, Inovio announced that Tripep had reported interim results indicating that in the third and highest dose cohort of the study, two of three subjects demonstrated reductions in viral load of 93% and 99.7%. This compares to previously reported middle dose cohort results demonstrating an 87% and 98% reduction in HCV in two of three subjects; no anti-viral effect was observed in the low dose cohort. No safety issues have been noted to date in the trial. These data suggest a potential dose response of the vaccine and support the inclusion of three additional subjects in the high dose cohort.

In November 2006, Inovio entered into a collaboration and license agreement with Wyeth to develop DNA vaccines against multiple infectious disease targets. For further discussion about this agreement, see "*Partnerships and Collaborations"* below. The selection of targets for its proprietary infectious disease program is driven by three key criteria: the complexity of the product development program, competition, and commercial opportunities.

Inovio reported in July, 2008, that in a preclinical study of a proprietary DNA-based therapeutic vaccine, 100% of immunized mice given a lethal challenge of highly pathogenic H5N1 influenza virus (A/Vietnam/1203/04) survived and showed only minor weight loss. The DNA vaccine design was based on a different influenza strain (H1N1) than the influenza strain used in the challenge, providing evidence that a universal vaccine based on conserved genes common to multiple strains of seasonal influenza and even potential pandemic influenza may have the possibility to provide widespread protection against such viruses.

DNA Vaccines for Biodefense

With the adoption of the Project Bioshield Act in 2004 by the U.S. government, there is an opportunity to secure development funding for proof-of-principle DNA vaccine studies for biowarfare pathogens. Inovio has been successful in securing funding from the U.S. government. Inovio believes DNA vaccines delivered with electroporation for bio-defense have the following advantages:

- establishment of a platform technology that can be readily adapted for new threats;
- ability to rapidly manufacture and scale-up vaccine candidates for newly identified pathogens;
- rapid induction of protective immune responses following vaccination; and
- long shelf life of products for stockpiling.

As resources obtained from government funding can be leveraged to enhance the development of technology in the area of cancer and chronic infectious disease, Inovio will continue to pursue opportunities in the area of biodefense. As an example of potential applications in the area of biodefense, one of Inovio's partners (RMR, LLC) is currently employing its skin electroporation technology in the pre-clinical development of an anthrax vaccine under a Department of Defense Small Business Innovation Research Program (SBIR) grant. Inovio currently has commercial rights to this skin electroporation system. The technology may also be useful with respect to targets such as the

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Lassa fever virus currently being studied by the U.S. Army in collaboration with Inovio (as further outlined under Partnerships and Collaborations below).

Gene Therapy

Over the past decade, classic gene therapy or treatment of inherited disorders has proven difficult. Electroporation of genes encoding therapeutic proteins has, however, demonstrated the potential to resolve these difficulties. In vivo production of proteins such as Factor IX for hemophilia and EPO for anemia represent large market opportunities. Pre-clinical studies for Inovio's partners have demonstrated multiple desirable characteristics of Inovio's approach, including:

Long term expression of the desired gene for convenient dosing;

Lack of immune responses to the plasmid vector;

Ability to achieve therapeutic levels of desired protein at a steady state; and

More natural production of the therapeutic protein than current recombinant proteins.

The major technical hurdle for use of Inovio's technology for classic gene therapy is the induction of an unwanted immune response to the transgene product due to the highly efficient delivery and expression seen with electroporation. As this problem may take significant resources to overcome, Inovio has decided not to focus on this market in the near term.

Animal Health/Veterinary

While Inovio is primarily focused on the use of Inovio's technology in the development of novel human therapeutics, it retains certain rights to veterinary applications and may seek to exploit these rights in the future.

Additional Applications of Inovio's DNA Delivery Technology

In addition to using Inovio's electroporation technology for drug and vaccine delivery, it can be used for research to validate new drug targets and to deliver molecules. Such use of Inovio's technology may facilitate transition into clinical development. Inovio continues to pursue, on a limited basis, research and opportunities in the areas of stem cells, ex vivo applications and RNAi.

Collaborations

In September 2008, Inovio announced it has received a contract for $933,000 from the Department of Defense (US Army) to continue research and development of DNA-based vaccines delivered via its proprietary electroporation system. The contract, titled "Design and Engineering of the Elgen Gene Delivery System for Screening and Validation of Vaccine Candidates of Military Relevance," will run through May 2010. This project is focused on identifying DNA vaccine candidates with the potential to provide rapid, robust immunity to protect against bio-warfare and bioterror attacks.

In November 2006, Inovio entered into a collaboration and license agreement with Wyeth for a worldwide non-exclusive license to Inovio's technology for certain infectious disease targets, for which Inovio received an upfront payment of $4.5 million. Inovio will also receive research support, annual maintenance fees, royalties on any net product sales and, contingent upon the achievement of clinical and regulatory milestones, payments of up to $60.0 million over the term of the agreement.

We may not receive any future payments from Wyeth and we believe Wyeth is evaluating internal strategic options prior to initiating further development of electroporation based infectious disease programs.

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In October 2006, Inovio announced that it acquired from Valentis, Inc. certain DNA delivery and expression assets, including Valentis' DNAvax® polymer delivery system and GeneSwitch® gene regulation technology.

In July 2006, Inovio announced it extended its license with RMR Technologies, LLC ("RMR") by exercising an existing option to license certain patented technology relating to the delivery of gene-based therapeutics into skin. This extends a long-standing relationship with the University of South Florida scientists and RMR founders Drs. Heller (now Executive Director, Frank Reidy Research Center for Bioelectrics, Old Dominion University), Jaroszeski, and Gilbert. This relationship dates back to the co-development of Inovio's MedPulser® Electroporation Instrument for treatment of solid tumors, including head and neck cancers. RMR is the collective effort of three scientists in collaboration with the University of South Florida and the H. Lee Moffitt Cancer Center and Research Institute. The license included other patents involving the delivery of genes or drugs via ex vivo, intratumoral, and intramuscular electroporation. Recent pre-clinical studies suggest that, for certain indications, needle-less skin electroporation of DNA plasmids encoding selected antigens may also be effective at inducing desired immune responses. The patented technology licensed from RMR covers various skin electroporation electrode designs and methods, including a needle-less design using a flexible material. RMR has agreed to collaborate in an effort to develop research prototypes into commercial grade electrodes for skin delivery as well as other novel forms of electroporation-assisted DNA delivery. Inovio has agreed to provide RMR with other development expertise pertinent to projects such as RMR's SBIR-funded pre-clinical study using RMR's proprietary dermal electrodes to deliver a DNA vaccine against anthrax. In connection with the acquisition of this exclusive license, Inovio issued 86,956 shares of Inovio common stock at a price of $2.30 per share, worth $200,000 on the date of issuance.

Inovio also licensed from RMR patents that claim the intratumoral delivery method used in the ongoing clinical trial at the Moffitt Cancer Center & Research Institute, which is delivering the gene encoding IL-12 directly to melanoma lesions. RMR, Inovio, the University of South Florida and Moffitt Cancer Center have been collaborating in the development of this novel therapy for melanoma for the past two years.

In May 2006, Inovio announced the acquisition, under a license with Sphergen SARL, of rights to several patent families relating to the use of electroporation technology. The rights Inovio licensed included two patents with broad claims regarding electroporation of nucleic acids in muscle and tumor tissue. This intellectual property acquisition enhanced the breadth of Inovio's patent portfolio directed to the use of electroporation technology to deliver therapeutic biopharmaceuticals. The license also includes grants of rights to know-how, future improvements, and provisions for exclusivity in applications to human medicine.

In January 2006, Inovio signed a collaborative agreement with Tripep to co-develop a therapeutic hepatitis C virus (HCV) DNA vaccine using electroporation. Under the terms of this agreement, Inovio pledged certain electroporation equipment toward an ongoing Phase I/II study of the proprietary Tripep vaccine in exchange for a minimum of 33% of the licensing revenues or commercial income that might be derived from the vaccine. Under the terms of the agreement, Tripep will only commercialize the electroporation-based vaccine with Inovio equipment. If Inovio decides not to continue to support the co-development, Inovio will retain a profit share of sub-licensing fees or commercial revenues going forward.

In May 2005, Inovio announced that Merck exercised an option for a non-exclusive license for an additional antigen to be used with Inovio's MedPulser® DNA Delivery System. This option exercise was provided for under the 2004 license and research collaboration agreement between Merck and Inovio, and brought the total number of antigens licensed by Merck to three. Inovio received an option fee for the additional target antigen. Under the terms of Inovio's licensing agreement with Merck,

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Inovio is eligible for milestone and royalty payments if certain development goals and commercialization of the device are achieved by Merck.

In April 2005, Inovio announced the initiation of a U.K. Medicines and Healthcare products Regulatory Agency (MHRA) approved Phase I/II clinical trial undertaken in collaboration with the University of Southampton. Inovio's electroporation technology is being used to deliver a therapeutic plasmid-based DNA vaccine to skeletal muscle with the aim of treating recurrent prostate cancer. The trial, sponsored and led by the University of Southampton, is investigating whether the DNA vaccine, developed at the University of Southampton, can stimulate patients to develop immune responses against prostate cancer and whether use of Inovio's electroporation system enhances this response.

In October 2004, Inovio announced an agreement with Vical wherein Vical licensed Inovio's DNA delivery technology for use with HIV, cytomegalovirus (CMV) and melanoma (using pDNA IL-2) targets. This agreement was based on an option agreement established with Vical in October of 2003 for a worldwide license for the use of Inovio's proprietary in vivo electroporation delivery technology in combination with Vical's proprietary vaccines.

In May 2004, Inovio announced a significant licensing deal with Merck for the development of Merck's DNA cancer and infectious disease vaccines. The terms of the agreement include milestone and royalty payments for successful completion of the clinical development of the vaccines by Merck. Under the terms of the agreement, Merck reimbursed Inovio for the co-development of a proprietary electroporation system for the delivery of Merck's DNA vaccines. This development and commercialization agreement was an extension of an initial evaluation agreement established in 2003. Merck received the right to use Inovio's proprietary technology for two specific antigens with an option to extend the agreement to include a limited number of additional target antigens. In addition, Merck obtained a non-exclusive license to the intellectual property related to the initial two specific antigens. Merck is responsible for all development costs and clinical programs.

The research carried out under the above agreements may result in new long-term license agreements with the other parties and may provide Inovio with additional data that Inovio believes will assist it in assessing the efficacy of using its MedPulser® DNA Electroporation System for delivery of DNA vaccines and gene therapies. The data should further assist Inovio in its licensing and commercialization efforts. In addition to the above collaboration and licensing arrangements, Inovio may develop proprietary DNA therapeutic product through early stage clinical trials and partner the product for late stage clinical development and marketing. Inovio may have to negotiate license(s) for genes or other components of the product if they are not in the public domain.

Market

Inovio's product development strategy is focused on pursuing significant product opportunities where Inovio's technology is considered enabling. During 2007, Inovio prioritized its efforts after assessing different market opportunities based on an evaluation of technology risk, market size and partner interest in DNA vaccines. Based on Inovio management's assessment of the market opportunities, oncology applications appear to represent the best market opportunities, followed by applications for infectious diseases, gene therapy for protein deficiency diseases and biodefense DNA vaccines.

Inovio believes there is a significant unmet clinical need to develop more efficacious vaccines that stimulate cellular immunity (i.e. can induce T-cell responses) and can be applied to diseases such as cancer, hepatitis C or HIV infection. For these applications, Inovio's scientists believe that DNA vaccines may offer an improvement over conventional vaccination. Inovio's scientists believe that electroporation of DNA is critical to maximizing the efficiency of DNA vaccination and meeting unmet clinical needs for therapeutic vaccines, which some industry analysts consider to be a multi-billion dollar market opportunity.

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Competition

Although there are many competing technologies for DNA delivery, Inovio believes electroporation has a unique strategic position compared to such technologies for the following reasons:

- Minimal or no delivery related side effects, and
- Enhances DNA vaccine potency.

Minimal or No Delivery Related Side Effects

Any company that is developing a DNA based delivery technology, such as viral delivery systems, lipid-based systems, or electroporation technology with an aim to carry out in vivo gene delivery for the treatment of various diseases, is a potential competitor of Inovio. Currently there are five key DNA delivery technologies: viral, lipids, naked DNA, "gene gun" and electroporation. All are promising technologies, but they each also have their unique obstacles to overcome. Management believes Inovio's electroporation system is strongly positioned to succeed as the dominant delivery method for DNA vaccines.

Viral vectors can be highly effective, however, there continue to be concerns regarding potential mutations, unwanted immune responses against the vector itself (preventing its use for re-administration or booster shots) and other side effects. Viral technology has yet to show predictable, consistent safety and is very expensive. Lipids can be effective, but may also have toxicity issues and are relatively expensive. Naked DNA is widely considered to be safe and is relatively inexpensive, but is not very effective. The gene gun technology (using gold particles as carriers of DNA for skin delivery) looks promising, however, there are data suggesting that electroporation offers equal or better efficacy and may offer broader utility without requiring a carrier. Not requiring a carrier allows electroporation to have a unique advantage over competing technologies because it eliminates one additional component that may independently propagate side effects and create manufacturing and quality control challenges.

Competitive advantages of electroporation over other delivery systems are summarized on Table 1 below:

Table 1: Present comparison of DNA Delivery technologies

Carrier/Vector Type	Carrier/Vector Issues	Efficacy	Economics
Viral	Mutations Immune Response Infection Symptoms	+++++	$$$$$
Lipids	Toxicity	++	$$
Particle Gun	Manufacturability	++++	$$$
Naked DNA	No Vector	+	$
(Electroporation Enhanced)	No Vector	++++	$

Enabling DNA vaccines

Commercial and academic institutions have been trying for over 15 years to develop DNA vaccines with sufficiently potent immune responses to make them commercially viable without much success. One facet of DNA vaccine research and development ("R&D") has been to combine an adjuvant component to help initiate a general immune response to complement the specific immune response induced by the DNA vaccine, but adjuvants complicate manufacturing and may generate additional unwanted side effects.

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In addition to being a highly efficient delivery method of plasmid to muscle cells, Inovio has shown that the mild electrical pulses of electroporation also have an adjuvant effect. This adjuvant effect seems to be related to more CpG-containing plasmid gaining access to intracellular toll-like receptors, which stimulate innate immune responses, and to slight muscle damage, which can lead to a danger signal to the immune system(1). To date, few, if any, common adjuvants seem to be required to augment immune responses observed after DNA vaccine delivery with electroporation.

(1) Babiuk, S. et al., 2004, Increased gene expression and inflammatory cell infiltration caused by electroporation are both important for improving the efficacy of DNA vaccines. J. Biotech. 110:1

General observations to date suggest that for many DNA encoded antigens there has to be an increase in gene expression of 10-100-fold (compared to naked DNA) in order to achieve a therapeutic benefit in large animals including man. Electroporation is currently the only method whereby one can routinely see increases in gene expression approaching or exceeding 100 to 1000 fold, thereby making the development of a large number of vaccines and therapeutics possible. In effect, electroporation increases the trivial levels of gene expression seen with naked DNA alone to the therapeutic levels needed for the development of successful commercial products. This puts Inovio in a unique position relative to competing technologies.

Competitive Technologies in the Area of DNA Delivery

Effective DNA delivery technologies are crucial for DNA vaccines. Many of the leading scientists in these fields have pointed out that the major obstacle to success has been the lack of safe, efficient, and economical methods of delivering DNA. Of the more than 800 gene therapy and DNA vaccine clinical trials started in the U.S. to date, none have progressed to regulatory approval. Inovio believes that existing DNA delivery alternatives have been a significant bottleneck to the successful development and commercialization of these promising next generation of vaccines. The following descriptions highlight the issues of the existing alternatives.

Viral DNA Delivery

This technology utilizes a virus as a carrier to deliver genetic material into target cells. The method is very efficient for delivering vaccine antigens and has the advantage of mimicking real viral infection so that the recipient will mount a broad immune response against the vaccine. The greatest limitation of the technology is problems with unwanted immune responses against the viral vector, limiting its use to patients who have not been previously exposed to the viral vector and making repeated administration difficult. In addition, complexity and safety concerns increase the cost of vaccines and complicate regulatory approval.

Ballistic DNA Delivery (Gene Gun)

This technology utilizes micron sized DNA-coated gold particles that are shot into the skin using compressed gas. The method has matured considerably over the last 15 years and has been shown to be an efficient method to deliver a number of vaccine antigens. Since the DNA is dry coated, excellent stability of the vaccine can be achieved. The method is limited to use in skin and only a few micrograms of genetic material can be delivered each time. This may limit the utility of the method for targets such as cancer where higher doses of vaccine antigens and stronger T-cell responses are needed.

Lipid DNA Delivery

A number of lipid formulations have been developed that increase the effect of DNA vaccines. These work by either increasing uptake of the DNA into cells or by acting as an adjuvant, alerting the immune system. While there has been steady progress in this field, lipid delivery tends to be less efficient than viral vectors and is hampered by concerns regarding toxicity and increased complexity.

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"Naked" DNA Delivery

The simplest DNA delivery mode is the injection of "naked" plasmid DNA into target tissue, usually skeletal muscle. This method is safe and economical but inefficient in terms of cell transfection, the process of transferring DNA into a cell across the outer cell membrane. Unfortunately, it is the least effective way of delivering DNA since only an extremely small fraction (approximately one out of twenty million) of the DNA molecules are taken up by the cells. While the method may have provided some utility for the field of gene therapy, a number of clinical studies over the last decade have shown that the method is inadequate for delivering DNA vaccines into large animals and humans.

"Naked" DNA Delivery With Electroporation

When naked DNA injection is followed by electroporation of the target tissue, transfection is significantly greater with resultant gene expression generally enhanced from 100 to 1000-fold. This increase makes many DNA vaccine candidates potentially feasible without unduly compromising safety or cost.

In December 2004, the first patient was treated using Inovio's electroporation system to deliver a plasmid DNA-based immunotherapy and Inovio has initiated, together with partners, additional Phase I clinical trials using Inovio's electroporation technology to deliver DNA-based immunotherapies or DNA vaccines. To date Inovio scientists have not observed any serious adverse events that can be attributed to the use of electroporation in these clinical DNA studies.

Inovio believes that the greatest obstacle to making DNA vaccines and immunotherapy a reality, namely the safe, efficient, and economical delivery of DNA plasmid constructs into target cells, and also believes that electroporation may become the method of choice for DNA delivery into cells in many applications.

There are other companies with electroporation intellectual property and devices. Inovio believes it has significant competitive advantages over other companies focused on electroporation for multiple reasons:

- Inovio has a long history and experience in developing the methods and devices that will optimize the use of electroporation in conjunction with DNA-based agents. This extensive experience has been validated with multiple sets of interim data from multiple clinical studies assessing DNA-based immunotherapies against cancers and infectious disease. Inovio, in conjunction with its partners and collaborators, has been the leader in establishing proof-of-principle of electroporation-delivered DNA vaccines and immunotherapies.

- The company has a broad product line of electroporation instruments designed to enable DNA delivery in tumors, muscle, and skin.

- Inovio has been very proactive in filing for patents, as well as acquiring and licensing additional patents, to expand and strengthen Inovio's international patent estate. Inovio has, as discussed below under Intellectual Property, the leading number of patents pertaining to electroporation. Inovio's patent estate has been rigorously assessed by leading vaccine companies Merck and Wyeth prior to them consummating substantial license agreements with Inovio.

While other companies have and continue to develop electroporation devices and possess certain patents relating to the use of electroporation, Inovio believes it has a strongly researched position and that its patent estate provides it with the potential to block competition in key areas of focus.

Medical Device Manufacturing

Inovio is a medical device manufacturer and, as such, operates in a regulated industry. Inovio must comply with a variety of manufacturing, product development and quality regulations in order to be

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able to distribute Inovio's products commercially around the world. In Europe, Inovio must comply with the MDD. Inovio has a Quality System certified by its international Notified Body to be in compliance with the international Quality System Standard, ISO13485, and meeting the Annex II Quality System requirements of the MDD. Inovio completed an Annex II Conformity Assessment procedure and achieved its CE Mark of the MedPulser® electroporation system in March 1999. Inovio completed an Annex II Conformity Assessment procedure and achieved its CE Mark of the Elgen electroporation system in November 2006.

In the U.S., Inovio is required to maintain facilities, equipment, processes and procedures that are in compliance with quality systems regulations. Inovio's systems have been constructed to be in compliance with these regulations and its ongoing operations are conducted within these systems. Commercially distributed devices within the U.S. must be developed under formal design controls and be submitted to the FDA for clearance or approval. As Inovio prepares for U.S. marketing, all development activity is performed according to formal procedures to ensure compliance with all design control regulations.

Inovio employs modern manufacturing methods and controls to optimize performance and control costs. Internal capabilities and core competencies are strategically determined to optimize Inovio's manufacturing efficiency. Inovio utilizes contract manufacturers for key operations, such as clean room assembly and sterilization, which are not economically conducted in-house. Inovio outsources significant sub-assemblies, such as populated printed circuit boards, for which capital requirements or manufacturing volumes do not justify vertical integration. As Inovio transitions from late-stage development activities into higher volume manufacturing activities, internal capabilities will be modified and added, as appropriate, to meet its changing priorities.

Currently, the durable electronic generator in the MedPulser® and Elgen system is assembled from outsourced populated printed circuit boards, and then tested, packaged and inventoried at Inovio's manufacturing facility. The disposable applicators used with the MedPulser® system are assembled and sterilized in a clean room at outside contract manufacturers. Additional current and future manufacturing of applicators for clinical trials and commercial distribution is planned to be done using a combination of internal manufacturing and outside contract manufacture.

Intellectual Property

Inovio's success and ability to compete depends upon its intellectual property. Inovio maintains a broad-based patent portfolio (both original and in-licensed technologies) that as of December 5, 2008, includes over 62 issued U.S. patents and 181 issued foreign counterpart patents, all of which collectively include claims to methods and/or devices for clinical use in the electroporation medical arts. Specifically, patented subject matter, as well as subject matter pending in the U.S. and foreign patent offices, includes method and device claims for delivering by electroporation medically important substances to the interior of cells in various body tissues such as a patient's muscle, skin, and other organs.

Inovio's core technology is centered on five broad, medically relevant "indication" categories including oncology, gene therapy/delivery (including vaccination with expressible vectors), vascular administration (e.g. by catheter), transdermal administration (including delivery of substances for cancer, gene therapy, and cosmetic applications), and ex vivo administration (e.g. by electroporation of cells outside the body and introducing the created cells to the patient).

Supporting Inovio's primary business focus, its intellectual property in gene therapy and DNA delivery enjoys a broad scope of patent protection, such as found in U.S. patent numbers 5,273,525 and in-licensed patents 6,110,161, 6,261,281, 6,610,044, 6,958,060 and 6,939,862, which include claims reciting methods and apparatus for implanting macromolecules (e.g. DNA and pharmaceutical compounds) into selected tissues of a patient by electroporation. U.S. patent number 6,763,264, with

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claims reciting methods of delivering expression vectors and molecules, and U.S. patent number 6,697,669, with claims reciting methods of in vivo electroporation of skin and muscle, provide broad-based coverage to the company. Other of Inovio's patents protect its proprietary methodology of electroporation wherein the electroporation process is carried out using "opposed-paired" electric field pulsing. Such patents include, and are not limited to, U.S. patent numbers 6,241,701, 6,120,493, 6,233,482, and 5,702,359C1. It is important to understand that patents having claims directed to methods of delivering substances to tissues using electroporation and devices for such methods, are generally applicable to DNA delivery and oncological applications.

With respect to oncology, U.S. patent number 6,569,149 provides broad claim coverage directed to a method for the application of electric fields to a tissue of a patient having a "cell proliferation disorder" for the purpose of introducing molecules into cells of the tissue to treat the cell proliferation disorder. Such method comprises providing an array of multiple opposed pairs of electrodes connected to a generator, wherein at least two pairs of electrodes, after being placed in selected tissue along with the substance being electroporated, are activated simultaneously with electric pulses. Likewise, in-licensed patent 6,528,315 claims methods of electroporation of DNA to tumor cells in a broad manner.

Inovio has a number of issued U.S. and foreign patents claiming a widely used gene regulation technology called GeneSwitch® that permits control of gene expression from DNA sequences via a small molecule that can be administered orally. For example, U.S. patents 5,364,791 and 6,599,698 claim various aspects of this unique regulation system that may be used in gene therapy products. In addition to electroporation technology for gene delivery, the company also acquired a group of patents claiming the delivery of DNA using polymers (e.g., 6,040,295 and 6,514,947) and lipids (e.g., 6,387,395 and 6,235,310) that are useful in the development of certain DNA vaccines.

Inovio's patent portfolio is also active with respect to vascular, transdermal, and ex vivo applications of electroporation technology. For example, U.S. patent 5,704,908 includes claims directed to an electroporation balloon catheter. Additionally, U.S. patent 6,342,247 is directed to methods of increasing vasodilation, an important indication in maintaining blood flow in certain patients with vessel occlusion problems. U.S. patents 6,697,669, 6,654,636, 5,810,762, and 5,439,440 provide claims to transdermal application of electric fields to surface tissues, while U.S. patents 6,027,488, 6,746,441, 6,800,484, and 6,150,148 include claims to electroporation of cells in vitro. Such electroporated cells could be used either in laboratory settings or for introduction into patient blood stream or other tissues.

Of further importance to Inovio, the currently issued patents provide a strong base for the claimed subject matter for the various indications to at least the year 2017 and numerous claims will be in force to between 2018 and 2020.

Corporate History and Headquarters

Inovio was originally incorporated on June 29, 1983, under the laws of California as Biotechnologies & Experimental Research, Inc. On December 10, 1991, the entity changed its corporate name to BTX, Inc. and again on February 8, 1994 changed it to Genetronics, Inc. On April 14, 1994, the board of directors approved a share exchange agreement with Consolidated United Safety Technologies Inc. On September 2, 1997, the company listed on the Toronto Stock Exchange ("TSE") as Genetronics Biomedical Ltd, under the laws of British Columbia, Canada, which wholly-owned Genetronics, Inc. On June 15, 2001, the entity completed a change in jurisdiction of incorporation from British Columbia, Canada, to the state of Delaware. This change was accomplished through a continuation of Genetronics Biomedical Ltd. into Genetronics Biomedical Corporation, a Delaware corporation. On January 17, 2003, Genetronics voluntarily de-listed from the TSE, where Inovio's common stock had been listed since September 2, 1997. On March 31, 2005, the corporate

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name changed from Genetronics Biomedical Corporation to Inovio Biomedical Corporation. Inovio conducts its business through its U.S. wholly-owned subsidiary, Genetronics, Inc., a Norwegian wholly-owned subsidiary, Inovio AS, and a wholly-owned subsidiary in the Republic of Singapore, Inovio Asia Pte. Ltd., which may be a platform for future research and development efforts.

Inovio's principal executive offices are located at 11494 Sorrento Valley Road, San Diego, California 92121-1318, and the telephone number is (858) 597-6006.

Available Information

Our Internet website address is *www.inovio.com*. We make our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, Forms 3, 4, and 5 filed on behalf of directors and executive officers, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities and Exchange Act of 1934, available free of charge on our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission (the "SEC"). You can learn more about us by reviewing such filings on our website or at the SEC's website at *www.sec.gov*.

Employees

As of March 16, 2009, Inovio employed 27 people on a full-time basis and 9 people under consulting and project employment agreements. Of the combined total, 22 were in product research, which includes research and development, quality assurance, clinical, engineering, and manufacturing, and 14 were in general and administrative, which includes corporate development, information technology, legal, investor relations, finance, and corporate administration. None of Inovio's employees are subject to collective bargaining agreements.

ITEM 1A. RISK FACTORS

You should carefully consider the following factors regarding information included in this Annual Report. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations. If any of the following risks actually occur, our business, financial condition and operating results could be materially adversely affected.

NEGATIVE CONDITIONS IN THE GLOBAL CREDIT MARKETS MAY IMPAIR THE LIQUIDITY OF A PORTION OF OUR INVESTMENT PORTFOLIO AND OUR ABILITY TO MAINTAIN OVERALL LIQUIDITY, NEGATIVELY IMPACTING OUR OPERATIONS AND FINANCIAL CONDITION.

The capital and credit markets have been experiencing extreme volatility and disruption for more than twelve months and the volatility and disruption have reached unprecedented levels. In some cases, the markets have exerted downward pressure on availability of liquidity and credit capacity for certain issuers. We need liquidity to pay our operating expenses, make timely principal and interest payments on our debt and replace certain maturing liabilities

Our investment securities consist of high-grade (AAA rated) auction rate securities ("ARS") issued primarily by municipalities, with a par value of approximately $13.6 million. The recent negative conditions in the global credit markets have prevented some investors from liquidating their holdings, including their holdings of ARS. In early March 2008, we were informed that there was insufficient demand at auction for all six of our high-grade ARS. As a result, these affected securities are currently not liquid, and we could be required to hold them until they are redeemed by the issuer or to maturity. In the event we need to access the funds that are in an illiquid state, we will not be able to do so

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without a loss of principal, until a future auction on these investments is successful, the securities are redeemed by the issuer or they mature.

In December 2008, we, via our wholly-owned subsidiary Genetronics, Inc., or "Genetronics", which holds the ARS, accepted an offer of ARS Rights from UBS. The ARS Rights permit us to require UBS to purchase our ARS at par value at any time during the period of June 30, 2010 through July 2, 2012. If we do not exercise our ARS Rights, the ARS will continue to accrue interest as determined by the auction process or the terms of the ARS if the auction fails. If the ARS Rights are not exercised before July 2, 2012 they will expire and UBS will have no further obligation to buy our ARS. UBS has the discretion to purchase or sell our ARS at any time without prior notice so long as we receive a payment at par upon any sale or disposition. UBS will only exercise its discretion to purchase or sell our ARS for the purpose of restructurings, dispositions or other solutions that will provide us with par value for our ARS. As a condition to accepting the offer of ARS Rights, we released UBS from all claims except claims for consequential damages relating to its marketing and sales of ARS. We also agreed not to serve as a class representative or receive benefits under any class action settlement or investor fund.

In conjunction with the acceptance of the rights offering, Genetronics also amended its existing loan agreement with UBS Bank USA, increasing the existing credit line up to $12.1 million, with the ARS pledged as collateral. Genetronics fully drew down on the line of credit in December 2008. Although the Company has been able to regain limited liquidity through this line of credit secured by the ARS and expects redemption of the ARS pursuant to the rights obtained, the line of credit may not provide sufficient liquidity for the Company's current operational needs.

Without sufficient liquidity, we will be forced to curtail our operations, and our business will suffer. In the event current resources, including our ARS and the related line of credit, do not satisfy our needs, we may have to seek additional financing. The availability of additional financing will depend on a variety of factors such as market conditions, the general availability of credit, the volume of trading activities, the overall availability of credit to the financial services industry, our credit ratings and credit capacity, as well as the possibility that customers or lenders could develop a negative perception of our long- or short-term financial prospects if we incur large investment losses or if the level of our business activity decreases due to a downturn in available funding, partnership opportunities and other fluctuations. The crisis in the global financial markets currently places significant limitations on the general availability of credit and the number and level of interest of investors. Similarly, our access to funds may be impaired if regulatory authorities take negative actions against us. Further, even if financing becomes available, the cost to us may be significantly higher than in the past. Our results of operations, financial condition, and cash flows position could be materially adversely affected by these disruptions in the financial markets, including the resulting lack of liquidity in our current investments and availability of financing for future liquidity.

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 new medical devices 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 advance phases of clinical trials to 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 pre-clinical research and clinical trials, although based upon our current budgeting and cash flow models, we believe that we can support our operations during the next 12 months.

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Our plans for conducting research, furthering development, continuing current and future pre-clinical and clinical trials and, eventually, marketing our human-use equipment will involve substantial costs. The extent of such 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 than 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 than expected costs involved in patenting our technologies and defending them and pursuing our overall intellectual property strategy;
- Changes in our existing research and development relationships and our ability to efficiently negotiate and enter into new agreements;
- Changes in or terminations of our existing collaboration and licensing arrangements;
- Faster or slower 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 product development programs;
- Higher than expected costs of developing the processes and systems to support FDA approval of our product development programs;
- An increase in our timetable and costs for the development of marketing operations and other activities related to the commercialization of our product development programs;
- Higher than 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 seek to do this in the future. However, due to the significant fluctuations in the market price of our common stock as a result of the extreme fluctuations in the global financial markets recently, there may not be sufficient investor interest in such sales at such time as we seek to raise additional funds, or if there is interest, it may not be at a price or on terms favorable to us. Further, sale of our stock to new investors results in dilution of the ownership

interests of our existing stockholders. 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 existing stockholders' voting power. Although we would consider also utilizing debt to fund our operations, such as our current use of our Line of Credit secured by our ARS, given the constriction of available credit and the fluctuation of interest rates in the global financial markets currently, additional debt financing

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may also be unavailable when needed, or available solely on terms not favorable to us. Thus, we cannot assure you that we will be able to raise additional capital or secure alternate financing to fund operations on terms that are favorable to us, if at all. Further, on July 7, 2008, we announced the signing of a definitive merger agreement with VGX Pharmaceuticals, Inc., a privately-held corporation; we cannot assure you that the merger, if completed, will in any way negate or mitigate the need for future capital nor can we project how it may impact our ability to raise future funds.

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;
- Increased legal, accounting and other administrative costs associated with negotiation, documentation and reporting any such acquisition;
- Possible dilution to our stockholders; and
- Possible acceleration of financing needs.

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.

On July 7, 2008, we announced the signing of a definitive merger agreement with VGX Pharmaceuticals, Inc., a privately-held corporation. In addition to the general risks and uncertainties of any business combination noted above, some of the inherent uncertainties we currently face in the proposed merger include:

- The parties' potential difficulties in quickly learning about and accurately evaluating each other's clinical trials and product development programs, including, but not limited to, the fact that pre-clinical and clinical results achieved by each party to date may not be indicative of results achievable in other trials or for other indications and that results from one study may not necessarily be reflected or supported by the results of other similar studies;
- The potential impact of the proposed merger on availability of ongoing or new funding to support continuing research and studies in an effort to prove safety and efficacy of electroporation technology as a delivery mechanism or develop viable DNA vaccines;

The availability or potential availability of alternative therapies or treatments for the conditions targeted by the parties or their collaborators, including alternatives that may be more efficacious or cost-effective than any therapy or treatment that the parties and their collaborators hope to develop;

The impact of the proposed transaction, including the time commitment from the parties' management, on the parties' abilities to evaluate and potentially pursue other potential collaborative or acquisition opportunities;

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Issues involving patents and whether they or licenses to them will provide the parties with meaningful protection from others using the covered technologies, and whether the merger, if completed, will impact any such protections;

Whether the parties' proprietary rights are enforceable or defensible or infringe or allegedly infringe on rights of others or can withstand claims of invalidity and whether the combined company can finance or devote other significant resources that may be necessary to prosecute, protect or defend them;

The level of corporate expenditures required to complete the merger process and, if completed, subsequently integrate the operations of the parties;

Any assessments of the companies' proposed combined technology by potential corporate or other partners or collaborators;

Potential stockholder litigation in connection with the merger;

Evaluation of the transaction by the NYSE Amex, which may impact the current and/or additional listing of the Company's securities; and

The impact of the application of FAS 141(R) to the accounting treatment of the merger, if consummated.

We may not be successful in overcoming these risks or any other issues encountered in connection with the proposed merger, we cannot assure you that the merger will be consummated, and we cannot assure you that the results of the merger, if completed, will meet the expectations of the parties and their stockholders.

THE NYSE AMEX MAY DELIST OUR SECURITIES FROM QUOTATION ON ITS EXCHANGE IF WE ARE UNABLE TO MAINTAIN A SUFFICIENT STOCK PRICE, AND IF SO, WE MAY BE UNABLE TO RELIST OUR SECURITIES ON THE NYSE AMEX OR ANOTHER NATIONAL SECURITIES EXCHANGE DUE TO THE LEVEL OF PERCEIVED MARKET VALUE OF SHARES OF OUR COMMON STOCK.

Our securities are currently listed on the NYSE Amex (the "NYSE Amex"), a national securities exchange, and in recent months have experienced a significant drop in market price. The NYSE Amex may seek to delist our securities from trading on its exchange if the NYSE Amex determines that the market price of our common stock has been persistently too low or if we fail to maintain compliance with other requirements of continued listing on the NYSE Amex. If NYSE Amex finds that we are non-compliant, it will issue a warning letter, which will require the Company to respond regarding potential actions it intends to take to support the market price. If such actions are not found sufficient by the NYSE Amex, if we cannot get any required approvals for such actions from its stockholders, or we otherwise cannot or do not complete such actions in a timely manner, the NYSE Amex will initiate the delisting process. If the NYSE Amex delists our securities from trading on its exchange and we are unable to relist our securities on the NYSE Amex or another national securities exchange due to the level of the perceived market price of shares of its common stock, the Company could face significant material adverse consequences, including:

an inability to fulfill the closing conditions for the pending merger with VGX Pharmaceuticals, Inc. under the terms of the definitive merger agreement;

a limited availability of market quotations for its securities;

a determination that its common stock is a "penny stock" which will require brokers trading in its common stock to adhere to more stringent rules, possibly resulting in a reduced level of trading activity in the trading market for Inovio common stock;

a limited amount of news and analyst coverage for its company; and

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a decreased ability to issue additional securities or obtain additional financing in the future.

Any of these consequences would likely have a material adverse impact on our financial condition and operations, and would result in a potential decrease in liquidity of our common 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 terms acceptable to us and in the interests of our stockholders, then we will have to take measures to cut costs, such as:

Delaying, scaling back or discontinuing one or more of our gene delivery programs or other aspects of operations, including laying off personnel or stopping or delaying planned preclinical research and the initiation or continuation of clinical trials;

The sale or license some of our technologies that we would not otherwise sell or license if we were in a stronger financial position;

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

Potentially 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 our perceived valuation may be lower, which could impact the market price for our common stock. 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 if and when needed, and our ability to do so may be limited significantly due to the instability of the global financial markets and the resulting limitations on available financing to us and to potential licensees, buyers and investors.

THE MARKET FOR OUR STOCK IS VOLATILE, WHICH COULD ADVERSELY AFFECT AN INVESTMENT IN OUR STOCK.

Our share price and trading volume are traditionally highly volatile, and such volatility has been exacerbated by the crisis in the global financial markets which has resulted in extreme fluctuations in market performance overall throughout the recent weeks. Such volatility is not unusual for biomedical companies of our size, age, and with a discrete market niche and is likely to continue even if the global markets stabilize. It also is common for the trading volume and price of biotechnology stocks to be unrelated to a company's operations, i.e. to increase or decrease on positive or no news. Our stock has exhibited this type of behavior in the past, and will likely 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;

Adverse research and development 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;

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;

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Announcement of an investigation of or an action against us by the SEC, NYSE Amex, or other state or federal regulatory authorities related to corporate governance or securities issues, including any prolonged comment letter response process, especially if such circumstances result in negative outcomes such as a significant restatement of our prior financial results;

Cancellation of corporate partnerships which include Merck, Wyeth as well as other material agreements;

Public concern as to the safety or efficacy of our human-use products including public perceptions regarding gene therapy in general;

Potential negative market reaction to the terms or volume of any issuances of shares of our stock to new investors or service providers;

Stockholders' decisions, for whatever reasons, to sell large amounts of our stock;

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.

These factors, as well as the other factors described in this report, could significantly affect the price of our stock. In addition, we announced on July 7, 2008, a pending merger transaction; the uncertainties inherent in such transactions regarding timing, potential for success, impacts on operations and dilution to our current stockholders may further exacerbate fluctuations in our stock price. 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 shares of our common stock would likely decline.

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 SEC declared effective on May 25, 2006, we have registered an aggregate of $75.0 million 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 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 December 31, 2008, we have "taken-down" from our shelf registration statement, and issued and sold, an aggregate of 9,035,378 shares of our common stock valued at $26.9 million and warrants to purchase up to 1,575,919 shares of our common stock valued at $3.9 million and, if those warrants are fully exercised, we will have issued an additional 1,575,919 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 as of the date of this report represent approximately 36% of the value of the aggregate equity securities from our shelf registration statement (41% if the warrants we have sold from our shelf registration statement are fully exercised). While that amount is only approximately 24% of our outstanding shares of common stock as of December 31, 2008, future issuances and sales of our common stock or securities exercisable for or convertible into our common stock pursuant to our existing shelf registration statement, if in substantial numbers, and even the availability for issuance of the securities registered under our shelf registration statement, could adversely affect the market price of our shares.

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In addition to the shares and warrants we have issued from our shelf registration statement, during 2007 we also issued 2,201,644 shares of our common stock and warrants to purchase up to 938,475 shares of our common stock in other recent offerings, as well as other restricted shares pursuant to consulting arrangements and other registered securities pursuant to our stock incentive plan in 2007 and 2008. Further, effective February 15, 2008, the SEC revised Rule 144, which provides a safe harbor for the resale of restricted securities, shortening applicable holding periods and easing other restrictions and requirements for resales by our non-affiliates, thereby enabling an increased number of our outstanding restricted securities to be resold sooner in the public market. Further, if we complete our pending merger transaction, as announced July 7, 2008, we will issue a significant number of registered shares which will substantially dilute our current stockholders and which will be freely tradable for non-affiliates of the post-merger company.

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 HAVE A HISTORY OF LOSSES, WE EXPECT TO CONTINUE TO INCUR LOSSES AND WE MAY NOT ACHIEVE OR MAINTAIN PROFITABILITY.

As of December 31, 2008, we had an accumulated deficit of $152.8 million. 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 research, development and clinical 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 additional potential partnerships and collaborative agreements as a way to further fund operations, but there is no assurance we will be able to secure partnerships or other arrangements 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. In the past, we have raised funds through the public and private sale of our stock, and we are likely to seek to do this in the future. However, due to the significant fluctuations in the market price of our common stock as a result of the extreme fluctuations in the global financial markets recently, there may not be sufficient investor interest in such sales at such time as we seek to raise additional funds, or if there is interest, it may not be at a price or on terms favorable to us.

Further, there can be no assurance, assuming we successfully raise additional funds, that we will achieve positive cash flow. If we are unable to raise additional funds under terms acceptable to us and in the interests of our stockholders, then we will have to take measures to cut costs, such as delaying, scaling back or discontinuing one or more of our gene delivery programs or other aspects of operations, including laying off personnel or stopping or delaying planned preclinical research and the initiation or continuation of clinical trials.

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.

Even if we were to achieve successful clinical results in our programs, successful approval, marketing, and sales of our human-use equipment are also 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 regardless of whether we achieve successful clinical trial results utilizing such human-use products. 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.

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These uncertainties may further cause our operating results to fluctuate dramatically in the next several years.

OUR ABILITY TO UTILIZE OUR NET OPERATING LOSSES AND CERTAIN OTHER TAX ATTRIBUTES MAY BE LIMITED.

As of December 31, 2008, we had net operating losses (NOLs) of approximately $59.4 million for federal income tax purposes and approximately $58.0 million for state income tax purposes. We also had federal research tax credit carryforwards of approximately $1.2 million as of December 31, 2008. Utilization of the NOLs and tax credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986, and similar state provisions due to ownership change limitations that have occurred previously or that could occur in the future. These ownership changes may limit the amount of NOL and tax credit carryforwards and other deferred tax assets that can be utilized to offset future taxable income and tax, respectively. In general, an ownership change, as defined by Section 382, results from transactions increasing ownership of certain stockholders or public groups in the stock of the corporation by more than 50 percentage points over a three-year period. An analysis was performed of ownership activity through December 31, 2008 which indicated that multiple ownership changes have occurred in previous years which created annual limitations on the Company's ability to utilize NOL and tax credit carryovers. Such limitations will result in approximately $12.7 million of tax benefits related to NOL and tax credit carryforwards that will expire unused. 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.

IF WE ARE UNABLE TO DEVELOP COMMERCIALLY SUCCESSFUL PRODUCTS IN VARIOUS MARKETS FOR MULTIPLE INDICATIONS, OUR BUSINESS WILL BE HARMED AND WE MAY BE FORCED TO CURTAIL OR CEASE OPERATIONS.

We cannot assure you that we will successfully develop any products, or if we do, that they will be commercially successful. If we fail to develop or successfully commercialize any products, we may be forced to refocus, curtail or cease operations. Our ability to achieve and sustain operating profitability depends on our ability, directly or with strategic partners, to successfully commercialize our products in Europe, Asia and in the US. This will depend in large part on our ability to commence, execute and complete clinical programs and obtain regulatory approvals for our products. Clinical trials are still necessary before we can seek regulatory approval to sell our products. We cannot assure you that we will receive approval for our products in the United States or in other countries or, if approved, that we or a partner will achieve a significant level of sales. If we fail to partner or commercialize our products, we may be forced to curtail or cease operations.

We 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. Even 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.

PRE-CLINICAL AND CLINICAL TRIALS OF HUMAN-USE EQUIPMENT ARE UNPREDICTABLE, AND 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

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human use. To obtain regulatory approvals, we must, among other requirements, complete pre-clinical research and clinical trials demonstrating that our product candidates are safe and effective for a particular cancer type or other disease. Regulatory approval of a new treatment 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 pre-clinical research and clinical trial activities.

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

- The electroporation-mediated delivery of DNA vaccines or related 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 pre-clinical research, clinical trials or data review, we would expect this to have a serious negative impact on our company. Any termination of ongoing enrollment or other delay or change in the conduct of our clinical trials may not always be understood or accepted by the capital markets and announcements of such scientific results and related actions may adversely affect the market price of our common stock. We have experienced such problems in the past when we stopped further patient enrollment in two Phase III pivotal studies for squamous cell head and neck cancer in 2007.

Any delays or difficulties we have encountered or will encounter in our pre-clinical research and clinical trials, 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 therapy 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.

A delay in our pre-clinical research or 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

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discontinued. In the event our pre-clinical research or 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 pre-clinical research or 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 REGULATORY AUTHORITIES 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 our 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 transfer of a certain gene to a certain tissue). These regulatory processes are extensive and involve substantial costs and time.

We have limited experience in, and limited resources available, for such 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 CANNOT PREDICT THE SAFETY PROFILE OF THE USE OF OUR ELECTROPORATION SYSTEM WHEN USED IN COMBINATION WITH OTHER THERAPIES.

Our current clinical trials involve the use of our electroporation system in combination with certain DNA vaccines. While the data we have evaluated to date suggest the use of electroporation does not alone have significant adverse effects nor 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

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attributable to the vaccines provided by our partners and collaborators will compromise the safety profile of our electroporation-based DNA delivery system when used in certain combination therapies. In some instances, clinical results may not clearly indicate whether possible adverse effects are related to our technology versus other study related factors.

WE COULD BE SUBSTANTIALLY DAMAGED IF PHYSICIANS AND HOSPITALS PERFORMING CLINICAL TRIALS USING OUR EQUIPMENT DO NOT ADHERE TO PROTOCOLS DEFINED 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 of our size and with 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

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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 marketing our MedPulser® Electroporation 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 affect 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. We

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may experience such operational difficulties or termination of such relationships without anticipated payment again in the future.

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 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 litigation 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 litigation; 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.

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 would be adversely affected. Until commercialization of our Medpulser® Electroporation 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 years ended December 31, 2008 and 2007, one licensing partner, Merck, accounted for approximately 30% and 68%, respectively, of our consolidated revenue. During the year ended December 31, 2008 and 2007 another licensing partner, Wyeth, accounted for 40% and 23%, respectively, of our consolidated revenue. We expect revenues from Wyeth and Merck to be significantly lower in 2009, as Wyeth evaluates internal strategic options prior to initiating further development of electroporation-based infectious disease programs and development activities for Merck will be limited for the foreseeable future. Further, Wyeth has recently agreed to be acquired by Pfizer Inc. and Merck has recently agreed to acquire Schering-Plough Corporation. Development and funding priorities may change as a result of these transactions, which may lead to the suspension or

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termination of our relationships with Wyeth or Merck. Any such suspension or termination would likely adversely affect our business.

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 years ended December 31, 2008 and 2007, Merck accounted for approximately 30% and 68%, respectively, of our consolidated revenue.

In addition, some of our sponsored research, license and/or collaborative arrangements contain "Change of Control" or other protective provisions that may be triggered by our pending merger with VGX Pharmaceuticals, announced July 7, 2008, if completed, which may enable pre-mature termination of such arrangements or otherwise may impact the status of such arrangements for the post-merger company. For example, our agreement with Wyeth requires that we provide Wyeth with certain notifications of a pending qualifying transaction and enables Wyeth to terminate our arrangement if such notice and certain other written assurances regarding the priority and commitment to the arrangement are not timely provided to Wyeth by the Company and/or the other Change of Control transaction party prior to consummation of such transaction. Similarly, our arrangement with Merck requires certain notice of a Change of Control transaction and also enables termination under limited circumstances as a result. Other arrangements require that we seek and obtain prior written consent from the collaborative party ahead of the consummation of any Change of Control transaction. Although we intend to comply with applicable notice and other documentation requirements pursuant to such "Change of Control" provisions in these and other collaborative arrangements, we cannot assure you that, to the extent such rights exist, our partners will not seek to terminate or alter their arrangements with us in relation to the closing of the proposed merger transaction.

Whether or not we complete the proposed merger, 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.

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WE MAY BE SUBJECT TO STOCKHOLDER LITIGATION, WHICH WOULD HARM OUR BUSINESS AND FINANCIAL CONDITION.

We may have actions brought against us by stockholders relating to our proposed merger with VGX, past transactions, changes in our stock price or other matters. Any such actions could give rise to substantial damages, and thereby have a material adverse effect on our consolidated financial position, liquidity, or results of operations. Even if an action is not resolved against us, the uncertainty and expense associated with stockholder actions could harm our business, financial condition and reputation. Litigation can be costly, time-consuming and disruptive to business operations. The defense of lawsuits could also result in diversion of our management's time and attention away from business operations, which could harm our business.

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 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

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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 occur, 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 contemporaneous factors, some of 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 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 December 31, 2008, 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 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

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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 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 and if 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 each product once we successfully perform a Phase III clinical study involving a particular use of our technology, 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

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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.

THERE IS A POSSIBILITY THAT OUR TECHNOLOGY WILL BECOME OBSOLETE OR LOSE ITS COMPETITIVE ADVANTAGE.

The vaccine development and 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 manufacture and 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. In certain international markets, local companies may be given preferential treatment by local physicians and hospitals.

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.

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

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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.

CHANGES IN FOREIGN EXCHANGE RATES MAY AFFECT OUR FUTURE OPERATING RESULTS.

In January 2005, we acquired Inovio AS, a Norwegian company. During the years ended December 31, 2008 and 2007, Inovio AS contributed approximately $135,000 and $159,000 to our revenue, respectively, which amounted to approximately 6% and 3% 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 Singaporean 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.

OUR RESTRUCTURING OF OUR NORWEIGIAN SUBSIDIARY, INOVIO AS, MAY NOT REALIZE THE EFFICIENCIES ANTICIPATED AND COULD RESULT IN ADDITIONAL, UNANTICIPATED LIABILITIES, WHICH WOULD HAVE A NEGATIVE EFFECT ON OUR FINANCIAL CONDITION.

On December 31, 2007, our wholly-owned Norwegian subsidiary Inovio AS transferred certain patent and other intellectual property rights ("IPR") to our wholly owned U.S. subsidiary Genetronics, Inc. The value assigned to these rights was $1.9 million, which was determined by and was the responsibility of management of Inovio, who considered in part preliminary work performed by a valuation specialist in Norway. All Norwegian tax gains associated with this transfer of the patents and

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IPR was offset by prior year tax loss carry forwards. Subsequent to year-end, Inovio changed the name of Inovio AS to Inovio Tec AS. Simultaneously, we incorporated a new Norwegian wholly-owned subsidiary under the name Inovio AS, for the purpose of organizing a research effort directed towards the development of specific cancer vaccine candidates. In January 2008, all employees, employee agreements, lease agreements and fixed assets were transferred from Inovio Tec AS to Inovio AS, and the parties intend to enter into a licensing agreement governing use of future IPR shortly. Further, although we and our board of directors retain ultimate control over and responsibility for Inovio AS, Inovio AS now has a distinct board of directors, consisting of two members of our board of directors and two Norwegian personnel, intended to allow more efficient balancing of U.S. legal and regulatory concerns with Norwegian legal and regulatory concerns in the course of decision-making.

This restructuring of our Norwegian operations is intended to better focus the research and development efforts conducted in Norway on our strategic programs and easing access to previously developed IPR for Inovio and its other subsidiaries. We expect funding for this program to be about $5.0 million over the next several years. Although designed to be tax-neutral to the parties, we cannot assure you that the tax authorities in Norway or the U.S. will agree with the valuation of the transferred assets or the procedures through which the transfers were made. If such disagreements were to arise, we may face unanticipated tax liabilities in Norway or the U.S. arising from the asset transfer. Further, as there will be an ongoing licensing relationship between the parties post-transfer, it is possible that such arrangements will receive heightened scrutiny for potential transfer pricing issues, which could result in additional liability to us. We believe that the new Inovio AS is now appropriately organized and staffed, and has the necessary resources and commitments for future resources to conduct its research and development efforts in support of our business strategy. However, we cannot assure readers that Inovio AS will not require further staff or financing beyond these initial commitments, or that we will be able to provide such resources if and when requested. To the extent Inovio AS or we face additional tax or transfer pricing issues, our operating results and overall financial condition may be adversely affected. In particular, if we are unable to provide additional support for Inovio AS when requested, Inovio AS may not be able to reach previously specified targets and milestones in a timely manner, undermining its financial stability and the commercial potential for its prostate cancer vaccine program.

OUR FACILITIES ARE LOCATED NEAR KNOWN EARTHQUAKE FAULT ANDWILDFIRE ZONES, AND THE OCCURRENCE OF AN EARTHQUAKE, SIGNIFICANT WILDFIRE, OR OTHER CATASTROPHIC DISASTER COULD CAUSE DAMAGE TO OUR FACILITIES AND EQUIPMENT.

Our facilities are located near known earthquake fault zones and areas prone to severe seasonal wildfires and are vulnerable to damage from earthquakes and wildfires. 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, wildfire or other disaster could materially and adversely harm our ability to conduct business.

ITEM 2. PROPERTIES

We own no real property and have no plans to acquire any real property in the future. On January 28, 2005, we moved into new headquarters of 22,867 square feet at 11494 Sorrento Valley Road in San Diego, California. This facility provides adequate space for our current research, manufacturing, and administrative operations. This lease runs through February 28, 2010. The annual rent for this leased property is $433,901 in the first two years and $452,767 in year three and four of

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the original lease term. The annual rent for the fifth and final year of the original lease term is $480,207. At the end of the original lease term, we have the option of renewing this lease for an additional five-year lease term at an annual rate equal to the fair market rental value of the property, as defined in the lease agreement.

In connection with this lease, we issued a warrant to purchase 50,000 shares of our common stock at $5.00 per share to the landlord of this leased facility in December 2004. This warrant was immediately exercisable and expires five years from the date of issuance. This warrant was valued on the date of issuance using the Black-Scholes pricing model. The fair value of this warrant, $120,913, is being recognized ratably over the five-year term of the lease as rent expense. As of December 31, 2008, this warrant had not been exercised.

In January 2008, we entered into a new facility lease in Oslo, Norway to support our research and development activities conducted through our subsidiary Inovio AS. The term of the lease is for three years and may be terminated with three months notice. Monthly rent is approximately $3,000 per month.

We believe our current facilities will be adequate to meet our operating needs for the foreseeable future. Should we need additional space, we believe we will be able to secure additional space at commercially reasonable rates.

ITEM 3. LEGAL PROCEEDINGS

Pyrce v. Inovio Biomedical Corporation, Genetronics Biomedical Corporation, Genetronics, Inc., Inovio AS, DOES 1 to 50, Superior Court of California, County of San Diego, Case No. 37-2007-000758899-CU-BC-CTL (Hon. Ronald L. Styn). The plaintiff, a former consultant to Inovio AS, commenced this civil lawsuit against the Company and various subsidiaries in state court on September 28, 2007.

The plaintiff seeks damages of approximately $780,000 he alleges to be due him under a consulting agreement he had with Inovio AS. Plaintiff further alleges the Company to be liable to him by virtue of its acquisition of Inovio AS and resulting from a license executed with Wyeth Pharmaceuticals Inc.

Plaintiff's original counsel withdrew from the case, and plaintiff was proceeding *pro se* until obtaining a new attorney who appeared in September of 2008 and filed a nine-count amended complaint. The Court dismissed three of Plaintiff's counts and Plaintiff thereafter filed a nine-count second amended complaint by which Plaintiff seeks approximately $780,000 in damages. The plaintiff has not yet served Inovio AS. The Company disputes the allegations, believes they are without merit and intends to vigorously defend against them.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No matters were submitted to a vote of security holders during the fourth quarter of fiscal 2008.

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PART II

ITEM 5. MARKET FOR COMPANY'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER REPURCHASES OF EQUITY SECURITIES

Market Information

Our common stock is listed, and principally traded, on the NYSE Amex, a national securities exchange, under the symbol "INO." The following table sets forth the quarterly high and low per share closing prices of our common stock for the two most recent fiscal years.

	Year Ended December 31,			
	2008		2007	
Period:	High	Low	High	Low
First Quarter	$1.45	$0.83	$3.46	$2.82
Second Quarter	$1.30	$0.78	$4.17	$2.20
Third Quarter	$1.13	$0.60	$2.94	$1.16
Fourth Quarter	$0.80	$0.16	$1.51	$0.85

As of March 16, 2009, we had approximately 136 common stockholders of record. This figure does not include beneficial owners who hold shares in nominee name. The closing price per share of our common stock on March 16, 2009 was $0.30, as reported on the NYSE Amex.

Dividends

The payment of any dividends on our common stock is within the discretion of our board of directors. However, we may not pay dividends on our common stock without the consent of holders of a majority of each Series of our outstanding Preferred Stock. We have not paid cash dividends on our common stock and the board of directors does not expect to declare cash dividends on the common stock in the foreseeable future.

The holders of our Series A and B Preferred Stock were entitled to receive an annual dividend at the rate of 6%, payable quarterly, through September 30, 2006. These dividends were payable in cash unless the closing price of our common shares for the 20 trading days immediately preceding the dividend payment date was equal to or greater than the conversion price of such shares, in which event we may have elected to pay the dividends to the holders in common stock. There were no dividends paid to the former holders of our Series A and B Preferred Stock during the years ended December 31, 2008 or 2007. We paid dividends to the holders of our Series A and B Preferred Stock through the issuance of 2,871 shares of our common stock valued at $8,000 and in cash of $15,000 during the year ended December 31, 2006. As of December 31, 2008 and 2007 there were no shares of Series A or B Preferred Stock outstanding.

The holders of our Series C Preferred Stock were entitled to receive an annual dividend at the rate of 6%, payable quarterly, through May 20, 2007. These dividends were payable in cash unless the closing price of our common shares for the 20 trading days immediately preceding the dividend payment date was equal to or greater than the conversion price of such shares, in which event we may have elected to pay the dividends to the holders in common stock. There were no dividends paid to the holders of our Series C Preferred Stock during the year ended December 31, 2008. During the year ended December 31, 2007, we paid dividends to the holders of our Series C Preferred Stock in cash of $23,000. During the year ended December 31, 2006, we paid dividends to the holders of our Series C Preferred Stock in cash of $117,000 and accrued dividends of $15,000 which were converted into common shares and warrants as part of a private placement we completed in October 2006. As of December 31, 2008 and 2007, there were 71 shares of Series C Preferred Stock outstanding.

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Recent Sales of Unregistered Securities

There were no sales of unregistered securities during the fourth quarter of fiscal 2008.

Repurchases

We did not repurchase any of our equity securities during the fourth quarter of fiscal 2008.

Equity Compensation Plans

Our equity compensation plan information is provided as set forth in Part III, Item 11 herein.

Performance Graph

The graph below matches Inovio Biomedical Corporation's cumulative 5-year total shareholder return on common stock with the cumulative total returns of the AMEX Composite index and the S & P SuperCap Biotechnology index. The graph assumes that the value of the investment in our common stock and in each of the indexes (including reinvestment of dividends) was $100 on December 31, 2003 and tracks it through December 31, 2008.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among Inovio Biomedical Corporation, The AMEX Composite Index
And The S & P SuperCap Biotechnology Index

*$100 invested on 12/31/03 in stock & index-including reinvestment of dividends.

Fiscal year ending December 31.

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	12/03	12/04	12/05	12/06	12/07	12/08

Inovio Biomedical Corporation	**100.00**	**78.80**	**45.40**	**65.80**	**18.40**	**10.40**
AMEX Composite	**100.00**	**124.13**	**155.00**	**184.30**	**217.52**	**132.72**
S & P SuperCap Biotechnology Index	**100.00**	**114.09**	**138.97**	**139.43**	**130.94**	**142.49**

The stock price performance included in this graph is not necessarily indicative of future stock price performance.

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ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following table sets forth our selected consolidated financial data for the periods indicated, derived from consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles.

	Year Ended December 31, 2008	Year Ended December 31, 2007	Year Ended December 31, 2006	Year Ended December 31, 2005	Year Ended December 31, 2004
Operations Data:					
License fee and milestone payments	$ 791,401	$ 2,793,478	$ 1,337,105	$ 2,563,283	$ 214,351
Revenue under collaborative research & development arrangements	1,077,967	1,854,303	962,207	1,492,145	945,591
Grants & miscellaneous revenue	228,264	159,948	1,168,866	1,411,825	7,157
Total revenue	2,097,632	4,807,729	3,468,178	5,467,253	1,167,099
Loss from continuing operations	(13,658,464)	(15,898,420)	(13,346,194)	(15,506,970)	(11,263,140)
Gain on disposal of assets					290,209
Interest & other income	692,842	4,693,977	1,002,252	210,118	247,555
Net loss	(12,965,622)	(11,204,443)	(12,343,942)	(15,296,852)	(10,972,931)
Imputed dividends common stock				(8,329,112)	
Imputed & declared dividends preferred stock		(23,335)	(2,005,664)	(2,736,658)	(732,405)
Net loss attributable to common stockholders	$ (12,965,622)	$ (11,227,778)	$ (14,349,606)	$ (26,362,622)	$ (11,705,336)
Per common share basic & diluted:					
Net loss	$ (0.30)	$ (0.27)	$ (0.40)	$ (0.81)	$ (0.62)
Imputed dividends common stock				(0.44)	
Imputed & declared dividends preferred stock			(0.06)	(0.14)	(0.04)
Net loss attributable to common stockholders	$ (0.30)	$ (0.27)	$ (0.46)	$ (1.39)	$ (0.66)
Balance Sheet Data:					
Cash and equivalents	$ 14,115,281	$ 10,250,929	$ 8,321,606	$ 17,166,567	$ 17,889,797
Short-term investments		16,999,600	14,700,000		
Long-term investments	9,169,471				
Total assets	38,987,028	39,775,021	35,949,615	28,978,954	20,951,502
Current liabilities	14,709,582	3,354,499	6,859,722	4,002,280	5,401,992
Accumulated deficit	(152,812,948)	(139,847,326)	(128,619,548)	(114,269,942)	(87,907,320)
Total stockholders equity	19,106,147	31,034,754	18,151,864	23,470,748	15,549,510

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

THIS ANNUAL REPORT ON FORM 10-K CONTAINS FORWARD-LOOKING STATEMENTS THAT INVOLVE RISKS AND UNCERTAINTIES. SUCH STATEMENTS INCLUDE, BUT ARE NOT LIMITED TO, STATEMENTS CONTAINING THE WORDS "BELIEVES," "ANTICIPATES," "EXPECTS," "ESTIMATES" AND WORDS OF SIMILAR MEANING. OUR ACTUAL RESULTS COULD DIFFER MATERIALLY FROM ANY FORWARD-LOOKING STATEMENTS, WHICH REFLECT MANAGEMENT'S OPINIONS ONLY AS OF THE DATE OF THIS REPORT, AS A RESULT OF SUCH RISKS AND UNCERTAINTIES. WE UNDERTAKE NO OBLIGATION TO REVISE OR PUBLICLY RELEASE THE RESULTS OF ANY REVISIONS TO THESE FORWARD-LOOKING STATEMENTS. FACTORS THAT COULD CAUSE OR CONTRIBUTE TO SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE FOUND IN THIS ANNUAL REPORT ON FORM 10-K IN PART I, ITEM 1A "RISK FACTORS;" IN THIS PART II, ITEM 7, "MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS;" AND ADDITIONAL FACTORS DISCUSSED ELSEWHERE IN THIS ANNUAL REPORT AND IN OTHER DOCUMENTS WE FILE FROM TIME TO TIME WITH THE SECURITIES AND EXCHANGE COMMISSION, INCLUDING OUR QUARTERLY REPORTS ON FORM 10-Q. READERS ARE CAUTIONED NOT TO PLACE UNDUE RELIANCE ON ANY FORWARD-LOOKING STATEMENTS.

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The following discussion should be read in conjunction with the consolidated financial statements and notes thereto appearing elsewhere in this Form 10-K. For a more comprehensive description of our business, see Part I. Item 1. Business.

Overview

Inovio Biomedical Corporation, or "Inovio," a Delaware corporation, organized in 2001, is a San Diego-based biomedical company focused on the development of next-generation vaccines to prevent or treat cancers and chronic infectious diseases. Such vaccines, which could potentially protect millions of people from debilitation or death from diseases without adequate treatments, may represent multi-billion dollar market opportunities. Historically, successful development of this new generation of vaccines DNA vaccines has been hindered by the lack of safe, efficient and cost effective DNA delivery methods capable of enabling their potency. However, Inovio's electroporation-based DNA delivery technology has shown potential in pre-clinical and clinical studies to play a pivotal role in facilitating delivery and enhancing the potency of preventive and therapeutic vaccines.

Inovio is a leader in developing DNA delivery solutions based on electroporation, which uses brief, controlled electrical pulses to create temporary pores in cell membranes and enable increased cellular uptake of a useful biopharmaceutical. Once the DNA vaccine enters a cell, it can then "express" the proteins it was encoded to produce. These proteins, or antigens, are designed to be uniquely associated with a targeted cancer or infectious disease, and may then stimulate a more powerful immune response if the immune system encounters the targeted disease at a subsequent time.

Inovio's business strategy to realize value for the company and its stockholders is as follows:

First, Inovio has leveraged its patented technologies through licensing and collaborations, such as its licensing arrangements with Merck & Co., Inc., or "Merck," Wyeth Pharmaceuticals, or "Wyeth" and Vical Inc., or "Vical," among other research-driven biopharmaceutical companies as well as government and non-government agencies. Inovio is licensing the use of its electroporation-based DNA delivery systems for partners to use in conjunction with their proprietary DNA vaccines or DNA-based immunotherapies. These arrangements provide Inovio with some combination of upfront payments, development fees, milestone payments, royalties and a supply agreement. These collaborators either have active programs that are pursuing development of proprietary agents or researching the use of Inovio's technology or are currently evaluating such programs.

Second, Inovio is pursuing proprietary vaccine development or co-development, resulting in whole or partial ownership in promising vaccines to prevent or treat cancers and chronic infectious diseases.

Inovio's technology is protected by an extensive patent portfolio covering in vivo electroporation. Inovio's patent portfolio encompasses a range of apparatuses, methodologies, conditions, and applications including oncology, gene delivery, vascular, transdermal as well as ex vivo electroporation.

On July 7, 2008, Inovio and VGX Pharmaceuticals, Inc. ("VGX"), a privately-held developer of DNA vaccines, executed a definitive merger agreement providing for the issuance of Inovio shares in exchange for all of the outstanding securities of VGX and the merger of an acquisition subsidiary of Inovio with VGX (the "Merger"). Inovio and VGX subsequently negotiated an amended and restated merger agreement (the "Amended Agreement"), which the parties executed on December 5, 2008. Completion of the Merger under the Amended Agreement remains subject to registration with the SEC of the Inovio securities to be issued in the Merger, receipt of approval from both companies' stockholders, and other customary closing conditions.

As of December 31, 2008, we had an accumulated deficit of $152.8 million. We expect to continue to incur substantial operating losses in the future due to our commitment to our research and development programs, the funding of preclinical studies, clinical trials and regulatory activities and the costs of general and administrative activities.

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Critical Accounting Policies

The SEC defines critical accounting policies as those that are, in management's view, important to the portrayal of our financial condition and results of operations and require management's judgment. Our discussion and analysis of our financial condition and results of operations is based on our audited consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses. We base our estimates on experience and on various assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from those estimates. Our critical accounting policies include:

Revenue Recognition.

Revenue is recognized in accordance with Staff Accounting Bulletin ("SAB") No. 104, *Revenue Recognition in Financial Statements,* and EITF Issue 00-21, *Revenue Arrangements with Multiple Deliverables*.

License fees are comprised of initial fees and milestone payments derived from collaborative licensing arrangements. We continue to recognize non-refundable milestone payments upon the achievement of specified milestones upon which we have earned the milestone payment, provided the milestone payment is substantive in nature and the achievement of the milestone was not reasonably assured at the inception of the agreement. We defer payments for milestone events which are reasonably assured and recognize them ratably over the minimum remaining period of our performance obligations. Payments for milestones which are not reasonably assured are treated as the culmination of a separate earnings process and are recognized as revenue when the milestones are achieved.

We have adopted a strategy of co-developing or licensing our gene delivery technology for specific genes or specific medical indications. Accordingly, we have entered into collaborative research and development agreements and have received funding for pre-clinical research and clinical trials. Payments under these agreements, which are non-refundable, are recorded as revenue as the related research expenditures are incurred pursuant to the terms of the agreements and provided collectibility is reasonably assured.

We receive non-refundable grants under available government programs. Government grants towards current expenditures are recorded as revenue when there is reasonable assurance that we have complied with all conditions necessary to receive the grants, collectibility is reasonably assured, and as the expenditures are incurred.

Research and development expenses. Since our inception, virtually all of our activities have consisted of research and development efforts related to developing our electroporation technologies. Research and development expenses consist of expenses incurred in performing research and development activities including salaries and benefits, facilities and other overhead expenses, clinical trials, contract services and other outside expenses. Research and development expenses are charged to operations as they are incurred. We review and accrue clinical trials expense based on work performed, which relies on estimates of total costs incurred based on patient enrollment, completion of studies and other events.

Valuation of Goodwill and Intangible Assets. Our business acquisitions typically result in goodwill and other intangible assets, and the recorded values of those assets may become impaired in the future. Acquired intangible assets are still being developed for the future economic viability contemplated at the time of acquisition. We are concurrently conducting Phase I and pre-clinical trials using the

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acquired intangibles, and we have entered into certain significant licensing agreements for use of these acquired intangibles.

We record patents at cost and amortize these costs using the straight-line method over the expected useful lives of the patents or 17 years, whichever is less. Patent cost consists of the consideration paid for patents and related legal costs. License costs are recorded based on the fair value of consideration paid and amortized using the straight-line method over the shorter of the expected useful life of the underlying patents or the term of the related license agreement. As of December 31, 2008, our goodwill and intangible assets resulting from acquisition costs of Inovio AS, and additional intangibles including patents and license costs, net of accumulated amortization, totaled $9.8 million.

The determination of the value of such intangible assets requires management to make estimates and assumptions that affect our consolidated financial statements. We assess potential impairments to intangible assets when there is evidence that events or changes in circumstances indicate that the carrying amount of an asset may not be recovered. Our judgments regarding the existence of impairment indicators and future cash flows related to intangible assets are based on operational performance of our acquired businesses, market conditions and other factors. If impairment is indicated, we reduce the carrying value of the intangible asset to fair value. While our current and historical operating and cash flow losses are potential indicators of impairment, we believe the future cash flows to be received from our intangible assets will exceed the intangible assets' carrying value, and accordingly, we have not recognized any impairment losses through December 31, 2008.

Although there are inherent uncertainties in this assessment process, the estimates and assumptions we use are consistent with our internal planning. If these estimates or their related assumptions change in the future, we may be required to record an impairment charge on all or a portion of our goodwill and intangible assets. Furthermore, we cannot predict the occurrence of future impairment-triggering events nor the impact such events might have on our reported asset values. Future events could cause us to conclude that impairment indicators exist and that goodwill or other intangible assets associated with our acquired businesses are impaired. Any resulting impairment loss could have an adverse impact on our results of operations.

Stock-based Compensation. Stock-based compensation cost is estimated at the grant date based on the fair-value of the award and is recognized as an expense ratably over the requisite service period of the award. Determining the appropriate fair-value model and calculating the fair value of stock-based awards at the grant date requires considerable judgment, including estimating stock price volatility, expected option life and forfeiture rates. We develop our estimates based on historical data. If factors change and we employ different assumptions in future periods, the compensation expense that we record may differ significantly from what we have recorded in the current period. A small change in the estimates used may have a relatively large change in the estimated valuation. We use the Black-Scholes pricing model to value stock option awards. We recognize compensation expense using the straight-line amortization method.

Auction Rate Securities and Auction Rate Securities Rights. We account for Auction Rate Securities ("ARS") under FAS 115, *Accounting for Certain Investments in Debt and Equity Securities*, and FAS 157, *Fair Value Measurements*. We account for ARS Rights in accordance with SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment to FASB Statement No. 115*. Our investments in ARS and our ARS Rights are recorded at their estimated fair value as there is currently no liquid market which indicates value. We have used a discounted cash flow model to determine the estimated fair value of our investment in ARS and our ARS Rights as of December 31, 2008. The assumptions used in preparing the discounted cash flow model include estimates for interest rates, timing and amount of cash flows and expected holding period of the ARS

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and ARS Rights. Changes in the estimated fair value of the ARS and ARS Rights are reflected in the consolidated statement of operations as "Other income, net."

Registered Common Stock Warrants. We account for registered common stock warrants in accordance with EITF Issue 00-19, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock,* on the understanding that in compliance with applicable securities laws, the registered warrants require the issuance of registered securities upon exercise and do not sufficiently preclude an implied right to net cash settlement. We classify registered warrants on the consolidated balance sheet as a current liability which is revalued at each balance sheet date subsequent to the initial issuance in October 2006 and August 2007. Determining the appropriate fair-value model and calculating the fair value of registered warrants requires considerable judgment, including estimating stock price volatility and expected warrant life. We develop our estimates based on historical data. A small change in the estimates used may have a relatively large change in the estimated valuation. We use the Black-Scholes pricing model to value the registered warrants. Changes in the fair market value of the warrants are reflected in the consolidated statement of operations as "Other income, net."

Recent Accounting Pronouncements

Information regarding recent accounting pronouncements is contained in Note 3 to the Consolidated Financial Statements, included elsewhere in this report.

Results of Operations

Comparison of Years Ended December 31, 2008 and 2007

The audited consolidated financial data for the years ended December 31, 2008 and December 31, 2007 is presented in the following table and the results of these two periods are used in the discussion thereafter.

	December 31, 2008	December 31, 2007	Increase/ (Decrease) $	Increase/ (Decrease) %
Revenue:				
License fee and milestone payments	$ 791,401	$ 2,793,478	$(2,002,077)	(72)%
Revenue under collaborative research and development arrangements	1,077,967	1,854,303	(776,336)	(42)
Grants and miscellaneous revenue	228,264	159,948	68,316	43
Total revenue	2,097,632	4,807,729	(2,710,097)	(56)
Operating expenses:				
Research and development	5,750,494	9,625,947	(3,875,453)	(40)
General and administrative	10,005,602	11,080,202	(1,074,600)	(10)
Total operating expenses	15,756,096	20,706,149	(4,950,053)	(24)
Loss from operations	(13,658,464)	(15,898,420)	(2,239,956)	(14)
Other income, net	49,006	3,421,580	(3,372,574)	(99)
Interest income, net	643,836	1,272,397	(628,561)	(49)
Net loss	(12,965,622)	(11,204,443)	(1,761,179)	(16)
Imputed and declared dividends on preferred stock		(23,335)	23,335	100
Net loss attributable to common stockholders	$(12,965,622)	$(11,227,778)	$(1,737,844)	(15)%

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Revenue

Our revenue consists of license fees, milestone payments, and amounts received from collaborative research and development arrangements and grants.

Our total revenue decreased $2.7 million or 56% for the year ended December 31, 2008, as compared to fiscal 2007 due to decreases in milestone payments and revenue under collaborative research and development arrangements, offset partially by an increase in grants and other revenue.

The $2.0 million decrease in license fees and milestone payments for the year ended December 31, 2008, as compared to fiscal 2007 was primarily due to the recognition of a $2.0 million milestone payment during fiscal 2007, resulting from the achievement of a clinical milestone by Merck for the filing of an investigational new drug application for the second Merck product in a major market. Under our agreement with Merck, we may receive additional future milestone payments linked to the successful development of a product. Revenue from other license agreements remained consistent during the years ended December 31, 2008 and 2007.

The $776,000 decrease in revenue under collaborative research and development arrangements during the year ended December 31, 2008, as compared to the 2007 fiscal year, was due to an $368,000 decrease in Wyeth billings based on our collaborative agreement related to the commercialization of the Elgen device, and $408,000 in lower Merck collaborative research billings during 2008 as compared to 2007. Billings from research and development work performed pursuant to the Wyeth and Merck agreements are recorded as revenue as the related research expenditures are incurred. Revenues from collaborative research and development arrangements are expected to decline in 2009, as Wyeth continues to evaluate internal strategic options prior to initiating further development of electroporation-based infectious disease programs. Under our research and collaboration agreement with Merck, we have provided the majority of the required device development for use in their clinical trials. Development activities for Merck will be limited until trial results are obtained.

The $68,000 increase in grant and miscellaneous revenue was due to more revenue recognized from U.S. Army grants during fiscal 2008 as compared to fiscal 2007. On September 26, 2008, we received a new contract for $933,000 from the Department of Defense (U.S. Army) to continue research and development of DNA-based vaccines delivered via our proprietary electroporation system. The contract, titled "Design and Engineering of the Elgen Gene Delivery System for Screening and Validation of Vaccine Candidates of Military Relevance," will run through May 2010. This project is focused on identifying DNA vaccine candidates with the potential to provide rapid, robust immunity to protect against bio-warfare and bioterror attacks.

During the years ended December 31, 2008 and 2007, we recognized revenue of $135,000 and $159,000, respectively, attributable to the operations of our Norwegian subsidiary, Inovio AS, which amounted to approximately 6% and 3% of our total revenue. Inovio AS' revenue primarily consists of amounts received from grants and licensing revenue.

Research and Development Expenses

The $3.9 million decrease in research and development expenses for the year ended December 31, 2008, as compared to fiscal 2007, was primarily due to a decrease in clinical trial expenses associated with patient enrollment, clinical site costs, data collection and monitoring costs related to the discontinued SECTA clinical trials. Additional decreases are associated with reduced use of consulting and advisory services, offset by higher labor and other development costs associated with expansion of in-house engineering and research expertise. Research and development expenses attributable to Inovio AS were $751,000 and $697,000 for the years ended December 31, 2008 and 2007, respectively.

Our research and development activities reflect our efforts to advance our products through the various stages of product development. The expenditures that will be necessary to execute our

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development plans are subject to numerous uncertainties, which may affect our research and development expenditures and capital resources. Even if earlier results are positive, we may obtain different results in later stages of development, which could impact our development expenditures for a particular product. Although we spend a considerable amount of time planning our development activities, we may be required to alter our plan based on new circumstances or events. Any deviation from our plan may require us to incur additional expenditures or accelerate or delay the timing of our development spending.

General and Administrative Expenses

General and administrative expenses include business development expenses and the amortization of intangible assets. The $1.1 million decrease in general and administrative expenses for the year ended December 31, 2008, as compared to fiscal 2007, was primarily due to a decrease in outside consulting and advisory services related to partnering our SECTA therapy program as well as a decrease in personnel costs and employee stock-based compensation expense, offset by increased legal fees related to the execution of the definitive merger agreement with VGX as well as other corporate matters. General and administrative costs attributable to Inovio AS were $150,000 and $84,000 for the years ended December 31, 2008 and 2007, respectively.

Stock-based Compensation.

Stock-based compensation cost is measured at the grant date, based on the fair value of the award reduced by estimated forfeitures, and is recognized as expense over the employee's requisite service period. Total compensation cost under SFAS No. 123(R) for our stock plans for the years ended December 31, 2008 and 2007 was $1.0 million and $1.6 million, of which $286,000 and $354,000 was included in research and development expenses and $746,000 and $1.2 million was included in general and administrative expenses, respectively. At December 31, 2008, there was $752,000 of total unrecognized compensation cost, related to unvested stock options, which we expect to recognize over a weighted-average period of one year, as compared to $1.3 million for the year ended December 31, 2007. Total stock-based compensation for options granted to non-employees for the years ended December 31, 2008 and 2007 was $58,000 and $119,000, respectively.

Other Income/(Expense)

We recorded other income (expense) for the years ended December 31, 2008 and 2007 of $49,000 and $3.4 million, respectively. The decrease in other income (expense) is primarily due to the revaluation of registered common stock warrants issued by us in October 2006 and August 2007. We are required to revalue the warrants at each balance sheet date to fair value. If unexercised, the warrants will expire in October 2011 and August 2012, respectively.

Interest Income/(Expense)

Interest income (expense) for the years ended December 31, 2008 and 2007 was $644,000 and $1.3 million, respectively. The decrease in interest and other income for fiscal 2008, as compared to fiscal 2007, was primarily due to a lower cash and investments balance and lower average interest rate.

Imputed and Declared Dividends on Preferred Stock

The holders of our Series C Preferred Stock were entitled to receive an annual dividend at a rate of 6%, in shares of common stock or cash, payable quarterly, through May 20, 2007. As part of this dividend, we paid cash of $23,000 during fiscal 2007 to holders of our Series C Preferred Stock. No dividends were paid to holders of our Series C Preferred Stock during the year ended December 31, 2008.

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Income Taxes

Since inception, we have incurred operating losses and accordingly have not recorded a provision for income taxes for any of the periods presented. As of December 31, 2008, we had net operating loss carry forwards for federal and state income tax purposes of approximately $59.4 million and $58.0 million, respectively. We also had federal and state research and development tax credits of approximately $1.2 million and $1.5 million, respectively. If not utilized, the net operating losses and credits will begin to expire in 2013. Utilization of net operating losses and credits are subject to a substantial annual limitation due to ownership change limitations provided by the Internal Revenue Code of 1986, as amended.

Comparison of Years Ended December 31, 2007 and 2006

The audited consolidated financial data for the years ended December 31, 2007 and December 31, 2006 is presented in the following table and the results of these two periods are used in the discussion thereafter.

	December 31, 2007	December 31, 2006	Increase/ (Decrease) $	Increase/ (Decrease) %
Revenue:				
License fee and milestone payments	$ 2,793,478	$ 1,337,105	$ 1,456,373	109%
Revenue under collaborative research and development arrangements	1,854,303	962,207	892,096	93
Grants and miscellaneous revenue	159,948	1,168,866	(1,008,918)	(86)
Total revenue	4,807,729	3,468,178	1,339,551	39
Operating expenses:				
Research and development	9,625,947	8,509,785	1,116,162	13
General and administrative	11,080,202	8,304,587	2,775,615	33
Total operating expenses	20,706,149	16,814,372	3,891,777	23
Loss from operations	(15,898,420)	(13,346,194)	2,552,226	19
Other income, net	3,421,580	320,706	3,100,874	967
Interest income, net	1,272,397	681,546	590,851	87
Net loss	(11,204,443)	(12,343,942)	1,139,499	9
Imputed and declared dividends on preferred stock	(23,335)	(2,005,664)	1,982,329	99
Net loss attributable to common stockholders	$(11,227,778)	$(14,349,606)	$ 3,121,828	22%

Revenue

Our revenue consists of license fees, milestone payments, and amounts received from collaborative research and development arrangements and grants.

Our total revenue increased $1.3 million or 39% for the year ended December 31, 2007, as compared to fiscal 2006 due to significant increases in license fees, milestone payments and revenue under collaborative research and development arrangements, offset partially by a large decrease in grant revenue.

The $1.5 million increase in license fees and milestone payments for the year ended December 31, 2007, as compared to fiscal 2006 was primarily due to the recognition of a $2.0 million milestone payment during fiscal 2007, resulting from the achievement of a clinical milestone by Merck for the

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filing of an investigational new drug application for the second Merck product in a major market. Under our agreement with Merck, we may receive additional future milestone payments linked to the successful development of a product. We also recognized $175,000 in higher Wyeth license fee revenue in fiscal 2007 as compared to fiscal 2006, and acquired license agreements to our GeneSwitch® technology resulting in increased revenue of $130,000 during fiscal 2007. These increases were partially offset by no Valentis license fee revenue during fiscal 2007 as compared to $480,000 during fiscal 2006, and decreased revenue of $344,000 from the Merck licensing agreement in 2007 as this agreement was fully amortized in May 2007.

The $892,000 increase in revenue under collaborative research and development arrangements during the year ended December 31, 2007, as compared to the 2006 fiscal year, was due to an $814,000 increase in Wyeth billings based on our collaborative agreement related to the commercialization of the Elgen device, and $78,000 in higher Merck collaborative research billings during 2007 as compared to 2006. Billings from research and development work performed pursuant to the Wyeth and Merck agreements are recorded as revenue as the related research expenditures are incurred.

The $1.0 million decrease in grant and miscellaneous revenue was due to minimal revenue recognized from U.S. Army grants during fiscal 2007 as compared to $899,000 during fiscal 2006 and a reduction in revenue recognized by Inovio AS from our European Union grant due to the timing of work performed.

During the years ended December 31, 2007 and 2006, we recognized revenue of $159,000 and $1.1 million, respectively, attributable to the operations of Inovio AS, a Norwegian company that we acquired in January 2005, which amounted to approximately 3% and 33% of our total revenue. Inovio AS' revenue primarily consists of amounts received from grants and licensing revenue.

Research and Development Expenses

The $1.1 million increase in research and development expenses for the year ended December 31, 2007, as compared to fiscal 2006, was primarily due to an increase in clinical trial expenses associated with patient enrollment, clinical site costs, data collection and monitoring costs, and increased costs related to the use of Clinical Research Organization ("CROs") and Clinical Research Associates ("CRAs") related to our SECTA therapy program. Additional increases are associated with the expansion of our in-house engineering and research expertise, increased consulting services, increased lab supplies related to our existing and next generation programs, increased outside lab testing performed, and expensed inventory costs. These increases were partially offset by a $672,000 decrease in expenses attributable to Inovio AS totaling $697,000 and $1.4 million during the years ended December 31, 2007 and 2006, respectively.

Our research and development activities reflect our efforts to advance our products through the various stages of product development. The expenditures that will be necessary to execute our development plans are subject to numerous uncertainties, which may affect our research and development expenditures and capital resources. Even if earlier results are positive, we may obtain different results in later stages of development, which could impact our development expenditures for a particular product. Although we spend a considerable amount of time planning our development activities, we may be required to alter our plan based on new circumstances or events. Any deviation from our plan may require us to incur additional expenditures or accelerate or delay the timing of our development spending.

General and Administrative Expenses

General and administrative expenses include business development expenses and the amortization of intangible assets. The $2.8 million increase in general and administrative expenses for the year ended December 31, 2007, as compared to fiscal 2006, was primarily due to an increase in outside consulting

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services related to partnering our SECTA therapy program, an increase in investor relations services associated with expanding our DNA and gene therapy program, an increase in personnel expenses associated with expanding our in-house expertise, increased legal fees associated with intellectual property and business development efforts, and increased legal, accounting and auditing fees primarily attributable to matters related to correspondence with the SEC. In addition, we recorded a reduction of goodwill in 2007 related to the realization of foreign net operating loss carryforwards. General and administrative costs attributable to Inovio AS were $84,000 for the year ended December 31, 2007 and were insignificant for the year ended December 31, 2006.

Stock-based Compensation.

Effective January 1, 2006, we adopted Statement of Financial Accounting Standards ("SFAS") No. 123(R), *Stock-based Payment*, and elected to adopt the modified prospective application method. SFAS No. 123(R) requires us to use a fair-value based method to account for stock-based compensation. Accordingly, stock-based compensation cost is measured at the grant date, based on the fair value of the award reduced by estimated forfeitures, and is recognized as expense over the employee's requisite service period. Total compensation cost under SFAS No. 123(R) for our stock plans for the years ended December 31, 2007 and 2006 was $1.6 million and $1.3 million, of which $354,000 and $423,000 was included in research and development expenses and $1.2 million and $921,000 was included in general and administrative expenses, respectively. At December 31, 2007, there was $1.3 million of total unrecognized compensation cost, related to unvested stock options, which we expect to recognize over a weighted-average period of one year, as compared to $947,000 for the year ended December 31, 2006. Total stock-based compensation for options granted to non-employees for the years ended December 31, 2007 and 2006 was $119,000 and $203,000, respectively.

Other Income/(Expense)

We recorded other income (expense) for the years ended December 31, 2007 and 2006 of $3.4 million and $321,000, respectively. The increase in other income (expense) is primarily due to the revaluation of registered common stock warrants issued by us in October 2006 and August 2007. We are required to revalue the warrants at each balance sheet date to fair value. If unexercised, the warrants will expire in October 2011 and August 2012, respectively.

Interest Income/(Expense)

Interest income (expense) for the years ended December 31, 2007 and 2006 was $1.3 million and $682,000, respectively. The increase in interest income for fiscal 2007, as compared to fiscal 2006, was primarily due to a larger cash and short-term investments balance and higher average interest rate.

Imputed and Declared Dividends on Preferred Stock

The former holders of our Series A and B Preferred Stock received an annual dividend at a rate of 6%, in shares of common stock or cash, payable quarterly through September 30, 2006. As a result, no dividends were paid to Series A or B Preferred Stock holders during the year ended December 31, 2007. We paid cash of $345 and issued a total of 2,871 shares valued at $8,000 to the former holders of our Series A Preferred Stock, and we paid $15,000 in cash to the former holders of our Series B Preferred Stock during fiscal 2006.

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The holders of our Series C Preferred Stock were entitled to receive an annual dividend at a rate of 6%, in shares of common stock or cash, payable quarterly, through May 20, 2007. As part of this dividend, we paid cash of $23,000 during fiscal 2007 to holders of our Series C Preferred Stock. We paid cash $117,000 during fiscal 2006 to holders of our Series C Preferred Stock and accrued $15,000 for certain holders of our Series C Preferred Stock who participated in an equity financing we completed in October 2006.

During 2006, we recorded an imputed dividend charge of $1.9 million during the three months ended December 31, 2006, related to the investors who converted $1.2 million of their Series C Preferred Stock investment into 473,744 shares of our common stock as part of our private placement closed in October 2006. This imputed dividend charge was calculated using guidance contained in Emerging Issues Task Force ("EITF") Issue No. 00-27, *Application of Issue No. 98-5 to Certain Convertible Instruments*. As part of this private placement, these investors received 304,450 additional shares of our common stock, as compared to the number of shares of our common stock into which their existing Series C Preferred Stock could have been converted under the original terms of the Series C Preferred Stock. Under EITF Issue No. 00-27, this incremental number of shares of our common stock was multiplied by the price of our common stock on the commitment date of the original Series C Preferred Stock issuance, or $6.08 per share, to calculate the $1.9 million imputed dividend charge associated with this beneficial conversion.

Income Taxes

Since inception, we have incurred operating losses and accordingly have not recorded a provision for income taxes for any of the periods presented. As of December 31, 2007, we had net operating loss carry forwards for federal and state income tax purposes of approximately $55.9 million and $50.8 million, respectively. We also had federal and state research and development tax credits of approximately $714,000 and $989,000, respectively. If not utilized, the net operating losses and credits will begin to expire in 2013. Utilization of net operating losses and credits are subject to a substantial annual limitation due to ownership change limitations provided by the Internal Revenue Code of 1986, as amended

Liquidity and Capital Resources

Historically, our primary uses of cash have been to finance research and development activities including clinical trial activities in the oncology, DNA vaccines and other immunotherapy areas of our business. Since inception, we have satisfied our cash requirements principally from proceeds from the sale of equity securities.

Recent Sales of Equity Securities

In May 2007, we completed a registered equity financing wherein we issued and sold 4,595,094 shares of our common stock for $3.52 per share, resulting in aggregate cash proceeds of $16.2 million, prior to offering expenses of $110,000.

Working Capital and Liquidity

As of December 31, 2008, we had working capital of $554,000, as compared to $25.6 million as of December 31, 2007. The decrease in working capital during the year ended December 31, 2008 was partly due to expenditures related to our research and development activities, as well as various general and administrative expenses related to consultants, legal, accounting and audit, and corporate development. In addition, a substantive reduction in working capital was due to the reclassification of the fair value of our auction rate securities, or ARS, from current to non-current investments in 2008, due to the illiquid state of these ARS. Management believes that Inovio's cash and cash equivalents at

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December 31, 2008 are sufficient to meet its planned working capital needs through December 31, 2009. To continue its product development Inovio plans to raise additional working capital through equity or debt financings.

Our ARS are AAA-rated municipal debt obligations with a long-term maturity and an interest rate that is reset in short-term intervals through auctions. Due to conditions in the global credit markets, in 2008, these securities, representing a par value of $13.6 million, had insufficient demand resulting in multiple failed auctions. As a result, these affected securities are currently not liquid and the interest rates have been reset to predetermined higher rates.

In December 2008, we, via our wholly-owned subsidiary Genetronics, Inc., or "Genetronics", which holds the ARS, accepted an offer of ARS Rights from UBS. The ARS Rights permit us to require UBS to purchase our ARS at par value at any time during the period of June 30, 2010 through July 2, 2012. If we do not exercise our ARS Rights, the ARS will continue to accrue interest as determined by the auction process or the terms of the ARS if the auction fails. If the ARS Rights are not exercised before July 2, 2012 they will expire and UBS will have no further obligation to buy our ARS. UBS has the discretion to purchase or sell our ARS at any time without prior notice so long as we receive a payment at par upon any sale or disposition. UBS will only exercise its discretion to purchase or sell our ARS for the purpose of restructurings, dispositions or other solutions that will provide us with par value for our ARS. As a condition to accepting the offer of ARS Rights, we released UBS from all claims except claims for consequential damages relating to its marketing and sales of ARS. We also agreed not to serve as a class representative or receive benefits under any class action settlement or investor fund.

In conjunction with the acceptance of the ARS Rights, we also amended our existing loan agreement with UBS Bank USA, increasing the existing credit line up to $12.1 million, with the ARS pledged as collateral. The loan will be treated as a "no net cost loan", as it will bear interest at a rate equal to the average rate of interest paid to Genetronics on the pledged ARS, and the net interest cost to Genetronics will be zero. The Company fully drew down on the line of credit in December 2008.

Typically the fair value of ARS approximates par value due to the frequent resets through the auction process. While we continue to earn interest on our ARS at the maximum contractual rates, these investments are not currently trading and therefore do not currently have a readily determinable market value. Accordingly, the estimated fair value of the ARS no longer approximates par value. We have used a discounted cash flow model to determine the estimated fair value of our investment in ARS and our ARS Rights as of December 31, 2008. The assumptions used in preparing the discounted cash flow model include estimates for interest rates, timing and amount of cash flows and expected holding period of the ARS and ARS Rights.

We elected to measure the ARS Rights under the fair value option of SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment to FASB Statement No. 115,* to mitigate volatility in reported earnings due to their linkage to the ARS, and recognized a gain of approximately $4.3 million and recorded a corresponding long-term investment. Reflecting our intent to exercise the ARS Rights during the period of June 30, 2010 through July 2, 2012, we transferred our ARS from investments available-for-sale to trading securities. As a result of this transfer and as we no longer intend to hold the ARS until the fair value recovers, we recognized an other-than-temporary impairment loss of approximately $4.4 million, representing a reversal of the related temporary valuation allowance that was previously recorded in other comprehensive loss. We believe this loss is primarily attributable to the limited liquidity of these investments and have no reason to believe that any of the underlying issuers are presently at risk of default. The recording of the fair value of the ARS Rights and the recognition of the other-than-temporary impairment loss resulted in a net impact to the Consolidated Statement of Operations for the year ended December 31, 2008 of approximately $99,000, which was recorded as other expense.

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As of December 31, 2008, we had an accumulated deficit of $152.8 million. 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 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 the above matters cannot be predicted at this time. We are evaluating potential partnerships as an additional way to fund operations. We will continue to rely on outside sources of financing to meet our capital needs beyond next year.

Our long-term capital requirements will depend on numerous factors including:

- The ability to raise additional working capital through equity or debt financing;
- The costs associated with raising capital or obtaining liquidity and completing transactions, such as the pending merger with VGX Pharmaceuticals, Inc.;
- The cost of manufacturing scale-up and the cost of commercialization activities and arrangements;
- The progress and magnitude of the research and development programs, including preclinical and clinical trials;
- The time involved in obtaining regulatory approvals;
- The cost involved in filing and maintaining patent claims;
- Competitor and market conditions;
- The ability to establish and maintain collaborative arrangements; and
- The ability to obtain grants to finance research and development projects.

The ability to generate substantial funding to continue research and development activities, preclinical and clinical studies and clinical trials and manufacturing, scale-up, and selling, general, and administrative activities is subject to a number of risks and uncertainties and will depend on numerous factors including:

- The ability to raise funds in the future through public or private financings, collaborative arrangements, grant awards or from other sources;
- Our potential to obtain equity investments, collaborative arrangements, license agreements or development or other funding programs in exchange for manufacturing, marketing, distribution or other rights to products developed by us; and
- The ability to maintain existing collaborative arrangements.

The global financial markets have recently experienced significant limits on available credit for companies of all sizes, and extreme volatility in market prices limiting the ability of companies to raise capital at favorable prices, if at all. This lack of liquidity and the consistently changing market conditions are currently impacting our ARS as discussed above, as well as creating significant fluctuations in the market price of our common stock. We cannot project how long such conditions will last in the global financial markets, and we cannot guarantee that additional funding whether via incurrence of debt or equity sales will be available when needed or on favorable terms. If it is not, we will be

required to scale back our research and development programs, preclinical studies and clinical trials, and selling, general, and administrative activities, or otherwise reduce or cease operations and our business and financial results and condition would be materially adversely affected.

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Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenue, expenses, and results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

On December 19, 2008, we amended our existing loan agreement with UBS Bank USA, increasing the existing credit line up to $12.1 million, with our Auction Rate Securities pledged as collateral. We fully drew down on the line of credit on December 23, 2008. Advances under the Line of Credit bear interest at LIBOR plus 1.00% (the "Spread Over LIBOR"). UBS may change the Spread Over LIBOR at its discretion when the Collateral consisting of ARS may be sold, exchanged or otherwise conveyed by the Company for gross proceeds that are, in the aggregate, not less than the par value of such securities. The loan will be treated as a "no net cost loan", as it will bear interest at a rate equal to the average rate of interest paid to the Company on the pledged ARS, and the net interest cost to the Company will be zero.

As of December 31, 2008, we did not have any other material long-term debt or other known contractual obligations, except for the operating lease for our facility, which expires in February 2010, and operating leases for copiers, which expire in 2009 through 2011.

We are contractually obligated to make the following operating lease payments as of December 31, 2008:

	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Operating lease obligations	$683,617	$539,825	$143,792	$	$

ITEM 7A. QUALITATIVE AND QUANTITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

Market risk represents the risk of loss that may impact our consolidated financial position, results of operations or cash flows due to adverse changes in financial and commodity market prices and rates. We are exposed to market risk primarily in the area of changes in United States interest rates and conditions in the credit markets, and the recent and consistent fluctuations in interest rates and availability of funding in the credit markets primarily impacts the performance of our investments. We do not have any material foreign currency or other derivative financial instruments. Under our current policies, we do not use interest rate derivative instruments to manage exposure to interest rate changes. We attempt to increase the safety and preservation of our invested principal funds by limiting default risk, market risk and reinvestment risk. We mitigate default risk by investing in investment grade securities.

Fair Value Measurements

All of our investment securities are classified as trading securities and are reported on the consolidated balance sheet at market value. Our investment securities consist of high-grade (AAA rated) auction rate securities ("ARS") issued primarily by municipalities, with a par value of approximately $13.6 million. The negative conditions in the global credit markets have prevented some investors from liquidating their holdings, including their holdings of ARS. In early March 2008, we were informed that there was insufficient demand at auction for all six of our high-grade ARS. As a result, these affected securities are currently not liquid, and we could be required to hold them until they are redeemed by the issuer or to maturity. In the event we need to access the funds that are in an

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illiquid state, we will not be able to do so without a loss of principal, until a future auction on these investments is successful, the securities are redeemed by the issuer or they mature.

In December 2008, we, via our wholly-owned subsidiary Genetronics, Inc., or "Genetronics", which holds the ARS, accepted an offer of ARS Rights from our investment advisor, UBS Financial Services, Inc., a subsidiary of UBS AG, or UBS. The ARS Rights permit us to require UBS to purchase our ARS at par value at any time during the period of June 30, 2010 through July 2, 2012. If we do not exercise our ARS Rights, the ARS will continue to accrue interest as determined by the auction process or the terms of the ARS if the auction fails. If the ARS Rights are not exercised before July 2, 2012 they will expire and UBS will have no further obligation to buy our ARS. UBS has the discretion to purchase or sell our ARS at any time without prior notice so long as we receive a payment at par upon any sale or disposition. UBS will only exercise its discretion to purchase or sell our ARS for the purpose of restructurings, dispositions or other solutions that will provide us with par value for our ARS. As a condition to accepting the offer of ARS Rights, we released UBS from all claims except claims for consequential damages relating to its marketing and sales of ARS. We also agreed not to serve as a class representative or receive benefits under any class action settlement or investor fund.

In conjunction with the acceptance of the ARS Rights, we also amended our existing loan agreement with UBS Bank USA, increasing the existing credit line up to $12.1 million, with the ARS pledged as collateral. The loan will be treated as a "no net cost loan", as it will bear interest at a rate equal to the average rate of interest paid to us on the pledged ARS, and our net interest cost will be zero. We fully drew down on the line of credit in December 2008.

In the event we need to access the funds that are in an illiquid state, we will not be able to do so without the possible loss of principal, until a future auction for these investments is successful or they are redeemed by the issuer or they mature.

Foreign Currency Risk

We have operated primarily in the United States and most transactions during the year ended December 31, 2008, have been made in U.S. dollars. Accordingly, we have not had any material exposure to foreign currency rate fluctuations, nor do we have any foreign currency hedging instruments in place.

We have conducted clinical trials in Europe in conjunction with several Clinical Research Organizations ("CRO's"), where we have clinical sites being monitored by Clinical Research Associates ("CRA's"). While invoices relating to these clinical trials are generally denominated in U.S. dollars, our financial results could be affected by factors such as inflation in foreign currencies, in relation to the U.S. dollar, in markets where these vendors have assisted us in conducting these clinical trials.

Certain transactions related to our Company and our subsidiaries Inovio AS and Inovio Asia Pte. Ltd. ("IAPL"), are denominated primarily in foreign currencies, including Euros, British Pounds, Canadian Dollars, Norwegian Kroner, Swedish Krona, and Singapore Dollars. As a result, our financial results could be affected by factors such as changes in foreign currency exchange rates or weak economic conditions in foreign markets where Inovio conducts business, including the impact of the existing crisis in the global financial markets in such countries and the impact on both the U.S. dollar and the noted foreign currencies.

We do not use derivative financial instruments for speculative purposes. We do not engage in exchange rate hedging or hold or issue foreign exchange contracts for trading purposes. Currently, we do not expect the impact of fluctuations in the relative fair value of other currencies to be material in 2009.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by this Item 8 is incorporated by reference to our Consolidated Financial Statements and the Report of Independent Registered Public Accounting Firm beginning at page F-1 of this report.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of December 31, 2008, an evaluation was carried out by the company, with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934). Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures were effective as of the end of the period covered by this report.

Internal Control Over Financial Reporting

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. Our internal control over financial reporting is a process designed under the supervision of our Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

As of December 31, 2008, management, with the participation of the Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting based on the criteria for effective internal control over financial reporting established in "Internal Control Integrated Framework," issued by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission. Based on the assessment, management determined that we maintained effective internal control over financial reporting as of December 31, 2008.

Attestation Report of the Registered Public Accounting Firm

This annual report does not include an attestation report of the company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the company's registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit the company to provide only management's report in this annual report.

Changes in Internal Control over Financial Reporting

There have not been any changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934) that occurred during the fourth quarter of our fiscal year ended December 31, 2008, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

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PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE COMPANY

DIRECTORS AND EXECUTIVE OFFICERS

Our executive officers and directors, and their ages and positions are as follows:

Name	Age	Position
Avtar Dhillon, M.D.	48	Director, and President and Chief Executive Officer
James L. Heppell, LLB(1)(2)	52	Director, and Chairman of the Board
Simon X. Benito(1)(2)(3)	63	Director
Tazdin Esmail(1)(2)(3)	59	Director
Riaz Bandali(2)(3)	39	Director
Robert W. Rieder(1)(2)	61	Director
Stephen Rietiker, M.D(3)	51	Director
Patrick Gan	50	Director
Peter D. Kies	45	Chief Financial Officer and HR Manager
Michael Fons, Ph.D.	48	Vice President, Corporate Development
Punit Dhillon.	28	Vice President, Finance and Operations

(1) Member of the Compensation Committee

(2) Member of Nomination and Corporate Governance Committee

(3) Member of the Audit Committee

AVTAR DHILLON, M.D. joined Inovio as the President and Chief Executive Officer, and as a director, in October 2001. Prior to joining Inovio, Dr. Dhillon was engaged by MDS Capital Corp. (now Lumira Capital Corp.), one of North America's leading healthcare venture capital organizations, as a consultant in July 1998, and subsequently became Investment Manager in August 1999 and Vice President in 2000. In July 1989, Dr. Dhillon started a medical clinic and subsequently practiced family medicine for over 12 years. From March 1997 to July 1998, Dr. Dhillon served as consultant to Cardiome Pharmaceuticals., a biotechnology company listed on NASDAQ National Market and the Toronto Stock Exchange. Dr. Dhillon has a Bachelor of Science, honors degree in physiology and M.D. degree from the University of British Columbia. Dr. Dhillon is also a director of Protox Therapeutics, a publicly traded specialty pharmaceutical company and Auricle Biomedical, a capital pool company.

JAMES L. HEPPELL, L.L.B. has been a director of Inovio since September 1994, Interim Chairman of the Board from September 1999 to March 2001, and Chairman of the Board since March 2001. Mr. Heppell is President and Fund Manager of BC Advantage Funds (VCC) Ltd., a venture fund that invests in early stage life science and technology companies located in British Columbia. Mr. Heppell is a director of Protox Therapeutics and Urodynamix Technologies, and a director of a number of private life science companies. In addition to his L.L.B., Mr. Heppell has a Bachelor of Science degree in Microbiology from the University of British Columbia. After joining the Bar, Mr. Heppell was seconded to the British Columbia Securities Commission to work as a Filings Analyst for six months. He has been a member of the Securities Policy Advisory Committee to the Commission and Chairman of the Securities Section of the Canadian Bar Association (British Columbia Branch).

SIMON X. BENITO has been a director of Inovio since December 2003. Prior to his retirement, Mr. Benito had a successful and extensive career serving several health care companies in senior executive positions, including 25 years at Merck & Co, Inc. His most recent positions included Senior Vice President, Merck Vaccine Division; Executive Vice President, Merck-Medco Managed Care; and Executive Director and Vice President, Merck Human Health, Japan. In addition, Mr. Benito was a Fellow of the Institute of Chartered Accountants in England and Wales for over thirty years until his

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retirement in 1999. Since April 2005, Mr. Benito has served as a director of DURECT Corporation, a publicly traded specialty pharmaceutical company.

TAZDIN ESMAIL has been a director of Inovio since August 2000. Mr. Esmail is the co-founder, former director, President and Chief Executive Officer of Protox Therapeutics Inc., a company that is developing targeted proteins for the treatment of cancer. Mr. Esmail also served as a director of BC Advantage Funds (VCC) Ltd., a venture fund that invests in early stage life science and technology companies located in British Columbia. He is also the Founder, and former Chairman of the Board, Director, President and Chief Executive Officer of Forbes Medi-Tech Inc., a company listed on the Toronto Stock Exchange and the NASDAQ National Market. Mr. Esmail is a former Vice-President of operations of QLT Inc., a Toronto Stock Exchange and the NASDAQ National Market listed biotechnology company, and a former Director of Pharmaceutical Operations for the American Home Products division of American Cyanamid (now Wyeth), where he also managed the company's oncology and hospital products division.

RIAZ BANDALI has served as a director of Inovio since August 2004. Mr. Bandali currently serves as Senior Vice President, Strategy and Business Development for MDS Analytical Technologies, a division of MDS Inc., a company listed on the New York and Toronto Stock Exchanges. Prior to joining MDS Analytical Technologies, he spent four years as Senior Vice-President, Business Development and Operations, at MDS Sciex, another division of MDS Inc. Prior to joining MDS Sciex, he served as Vice-President and Venture Partner with MDS Capital, which he joined in late 1994. Mr. Bandali has also served on the boards of several health and life sciences companies in the United States and Canada. Prior to joining MDS Capital, he served as Chief Financial Officer and Senior Vice-President, Business Development for Apoptogen Inc., and Transplantation Technologies Inc. During the early 1990s, he was a managing principal at a computer network consulting firm. Mr. Bandali has a Bachelor of Science from the University of British Columbia in Vancouver, where he majored in Microbiology, and a Masters of Business Administration from McGill University in Montreal.

ROBERT W. RIEDER has served as a director of Inovio since May 2007. Mr. Rieder is currently the Chief Executive Officer and Chairman of the Board of Directors of Cardiome Pharma Corp. (NASDAQ: CRME). Mr. Rieder has had a successful and extensive career in venture capital and in operational management. Prior to joining Cardiome, Mr. Rieder was vice-president at MDS Ventures Pacific Inc., an affiliate of MDS Capital Corp., and has served as a director for multiple public and private technology companies. Mr. Rieder received his Masters of Business Administration from the University of Western Ontario.

STEPHEN RIETIKER, M.D., has served as a director of Inovio since February 2008. Dr. Rietiker has management and board experience in both publicly held and privately held healthcare companies. Since 2007, Dr. Rietiker has served as Chairman of AurigaVision AG and has served as a senior advisor to Brown Brothers Harriman & Co.'s corporate finance team since 2004. From 2004 to 2006, Dr. Rietiker served as Executive Director and CEO for IMI Intelligent Medical Implants AG, and served from 2003 to 2004 as CEO and a director of Pendragon Medical Ltd. He has held positions with Roche, Boehringer Mannheim, Schering Plough, Covance and Sulzer Medica AG (later Centerpulse AG). Since 2003, he has been actively involved as executive director and investor in various start-ups. He is also a director of Prospero Minerals Corporation and Contract Farming India AG. In 2007, he founded AurigaVision AG based in Zug, Switzerland, which serves as a platform with the ultimate goal to turn visions and technologies into successful businesses.

PATRICK GAN, was appointed a director of Inovio in May 2008. Mr. Gan is currently Managing Partner of ATP Capital Pte Ltd, a Singapore based institutional fund, which is one of Inovio's stockholders. Mr. Gan has over 23 years of working experience in the healthcare sector where he held a number of positions in senior management, sales, marketing and project management. Prior to joining ATP in October 2005, Mr. Gan was Chief Executive Officer of Tiger Airways since January 2004. From January through December 2003, Mr. Gan invested personally with various small business

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ventures. From January 2001 to December 2002, Mr. Gan served as the Area Director for the Asia Pacific region for Novartis, and served from 1998 to 2000 as Managing Director of Asia Pacific region of Glaxo Wellcome and subsequently as Director of Integration based in Singapore for the merger with Smith Kline in the Asia Pacific region. In previous positions, Mr. Gan was with Roche Pharmaceuticals & Chemicals, first in Singapore, and subsequently in Switzerland (the company's headquarters) and China, where he was responsible for a number of different areas, from marketing the implementation of the company's MedNet IT system to developing longer-term business plans for the different markets. Mr. Gan holds a B.Sc. in Pharmacy from the National University of Singapore and received his Masters of Business Administration from the University of Warwick.

PETER KIES has been employed by Inovio as Chief Financial Officer since June 2002. For the 15 years prior to joining Inovio, Mr. Kies acquired broad expertise in the functional and strategic management of biotechnology and high technology companies across the full spectrum of corporate growth, from Initial Public Offering to profitability. From May 1996 until joining Inovio, he served as Chief Financial Officer for Newgen Results Corporation, and prior to that served as Controller for Cytel Corporation and as an auditor for Ernst & Young LLP. Mr. Kies holds a B.S. in Business Administration from United States International University in San Diego, California.

MICHAEL FONS, PhD, was promoted by Inovio to Vice President of Corporate Development in August 2007. Dr. Fons joined Inovio as Executive Director of Corporate Development in June 2004. In such capacity, he has been instrumental in defining Inovio's corporate strategy relating to DNA vaccines and DNA delivery, including assisting in securing DNA-related license agreements, acquiring valuable intellectual property assets, and establishing a strong standard for the management of Inovio's corporate relationships. Prior to joining Inovio, Dr. Fons held business development roles with Vical, GeneMedicine, and Valentis. He is an Adjunct Associate Professor of Microbiology and Immunology with the University of Texas Medical Branch. Dr. Fons is a published author of 24 papers in scientific journals and numerous book chapters.

PUNIT DHILLON was promoted by Inovio to Vice President, Finance and Operations in January 2008. Mr. Dhillon joined Inovio in September 2003 and has played a vital role in various corporate finance projects, including management of financing transactions, as well as day-to-day management of operational functions. Mr. Dhillon was most recently Executive Director of Finance and Operations. Prior to joining Inovio, he worked for a corporate finance law firm as a law clerk. He previously worked with MDS Capital Corp. (now Lumira) and was a consultant to several early stage health and life-science companies where he acquired broad experience in corporate management, finance and capital markets. Mr. Dhillon has a Bachelor of Arts, Honors, in Political Science and a minor in Business Administration from Simon Fraser University. Mr. Dhillon is also a director of Auricle Biomedical, a capital pool company.

Certain Legal Proceedings

No directors, nominees or executive officers have been involved in the certain legal proceedings listed in Item 401 of Regulation S-K.

Family Relationships

No family relationships exist between any of the directors or executive officers of Inovio except for that of Mr. Punit Dhillon, Vice President Finance and Operations, who is the nephew of Inovio's Chief Executive Officer and director, Dr. Avtar Dhillon. Neither Mr. Dhillon nor Dr. Dhillon have been party to any transaction requiring disclosure pursuant to Item 404(a) of Regulation S-K.

Committees of the Board of Directors and Attendance at Board Meetings

During the year ended December 31, 2008, the Board of Directors met ten times, the Audit Committee met six times, the Nomination and Corporate Governance Committee met seven times and

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the Compensation Committee met seven times. Each director attended at least 75% of the aggregate number of meetings held by (i) the Board of Directors and (ii) those committees of the Board of Directors on which he served.

Audit Committee

The functions of the Audit Committee include retaining our independent registered public accounting firm, reviewing its independence, reviewing and approving the planned scope of our annual audit, reviewing and approving any fee arrangements with our independent registered public accounting firm, overseeing its audit work, reviewing and pre-approving any non-audit services that may be performed by it, reviewing the adequacy of accounting and financial controls, reviewing our critical accounting policies and reviewing and approving any related party transactions. The Board of Directors amended the charter for the Audit Committee on March 6, 2008, to better reflect the practices and responsibilities of the Audit Committee. The Audit Committee's charter, a component of our corporate governance policy, is available separately on our website at: *http://media.corporate-ir.net/media_files/irol/10/105128/corpGov/AuditCommittee.pdf*

The members of the Audit Committee are Simon Benito (Chair), Riaz Bandali, Tazdin Esmail and Steven Rietiker. Each member of the Audit Committee is independent under the NYSE Amex listing standards. The Board has determined that Mr. Benito is an "audit committee financial expert" as defined under Item 407(d)(5)(ii) of Regulation S-K under the Securities Act of 1933, as amended (the "Securities Act").

Compensation Committee

The Compensation Committee determines the salary of the executive officers of Inovio, grants stock options under the 2007 Omnibus Incentive Plan and performs such other functions regarding compensation as the Board of Directors may delegate. The Board of Directors amended the charter for the Compensation Committee on March 27, 2008. The Compensation Committee's charter, a component of our corporate governance policy, is available separately on our website at:
http://media.corporate-ir.net/media_files/irol/10/105128/corpGov/CompCommit.pdf.

The members of the Compensation Committee are James L. Heppell (Chair), Simon Benito, Tazdin Esmail and Robert W. Rieder. Each member of the Compensation Committee is independent under the NYSE Amex listing standards.

Nomination and Corporate Governance Committee

The Nomination and Corporate Governance Committee identifies and recommends candidates for election to the Board of Directors. It advises the Board of Directors on all matters relating to directorship practices, including the criteria for selecting directors, policies relating to tenure and retirement of directors and compensation and benefit programs for non-employee directors. While the Nomination and Corporate Governance Committee has not established any minimum criteria for serving as a director, the Committee focuses on selecting individuals that have skill sets that augment the skill sets of the current directors and are most likely to assist in the building and success of Inovio. In addition, the Committee believes it appropriate for at least one member of the Board of Directors to meet the criteria for an "audit committee financial expert," as defined by Securities and Exchange Commission rules, that independent members of the board who serve on the audit committee are able to read and understand fundamental financial statements, including a balance sheet, income statement, and cash flow statement and that at least a majority of the members of the Board of Directors meet the definition of "independent" under NYSE Amex rules.

The Nomination and Corporate Governance Committee also makes recommendations relating to the duties and membership of committees of the Board of Directors, recommends processes to evaluate the performance and contributions of individual directors and the Board of Directors as a whole,

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approves procedures designed to provide that adequate orientation and training are provided to new members of the Board of Directors, consults with the Chief Executive Officer in the process of recruiting new directors and assists in locating senior management personnel and selecting members for the scientific advisory board.

The Nomination and Corporate Governance Committee has developed a policy to govern Inovio's approach to corporate governance issues and provides a forum for concerns of individual directors about matters not easily or readily discussed in a full board meeting (e.g., the performance of management). Individual directors are entitled to engage outside advisors at the expense of Inovio, with the prior approval of the Nomination and Corporate Governance Committee, and with the full knowledge of management. The Board of Directors amended the charter for the Nomination and Corporate Governance Committee on March 27, 2008. The Nomination and Corporate Governance Committee's charter, a component of our corporate governance policy, is available separately on our website at:
http://media.corporate-ir.net/media_files/irol/10/105128/corpGov/NomandCorpGov.pdf

The members of the Nomination and Corporate Governance Committee are Tazdin Esmail (Chair), Riaz Bandali, Simon Benito, James L. Heppell, and Robert W. Rieder. Each member of the Nomination and Corporate Governance Committee is independent under the NYSE Amex listing standards.

Corporate Governance

Inovio's Corporate Governance policy, which includes the charters of the committees of the Board of Directors, is available on our website, *www.inovio.com*. The Board of Directors has implicitly and explicitly acknowledged its responsibility for the stewardship of Inovio in the following ways:

Strategic Planning and Identification of Risks

Management prepares an annual business plan for Inovio and presents the plan to the Inovio Board of Directors for its review and comments. In connection therewith, the Board of Directors discusses various strategic matters with management and identifies business risks associated with Inovio's activities.

Senior Management

The board of directors takes responsibility for appointing those members of senior management who become Inovio's officers. Currently, the members of senior management of Inovio are: Dr. Avtar Dhillon, President and Chief Executive Officer; Peter Kies, Chief Financial Officer and Human Resources Manager; Dr. Michael Fons, Vice President, Corporate Development; and Punit Dhillon, Vice President, Finance and Operations.

Communications Policy

The board of directors has procedures in place to ensure effective communication between Inovio, its stockholders, prospective investors, and the public, including the dissemination of information on a regular and timely basis. Historically, the Chairman of the Board of Directors, the Chief Executive Officer, the Chief Financial Officer and the Vice President, Finance and Operations, along with various other Inovio employees and consultants, devoted a portion of their time to dealing with stockholders and prospective investors. Stockholders who want to communicate with the board or any individual director can write to Inovio's Secretary at the following address: 11494 Sorrento Valley Road, San Diego, CA 92121-1318; such correspondence should indicate that status as an Inovio stockholder. Depending on the subject matter, management will:

Forward the communication to the director or directors to whom it is addressed;

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Attempt to handle the inquiry directly, for example, where it is a request for information about Inovio or it is a stock-related matter; or

Not forward the communication if it is primarily commercial in nature or if it relates to an improper or irrelevant topic.

Internal Control and Management Information Systems

Along with management, the board of directors is responsible for Inovio's internal control and management information systems. The Audit Committee of the Board of Directors meets with Inovio's independent registered public accounting firm quarterly to review Inovio's financial statements and to review Inovio's financial reporting procedures.

Independence from Management

To ensure that the board of directors functions independently of management, Inovio has separated the office of chairman of the Board from that of Chief Executive Officer. Further the independent directors meet on a regular basis as often as necessary to fulfill their responsibilities, including at least annually in executive session without the presence of non-independent directors and management. James L. Heppell, Simon Benito, Tazdin Esmail, Riaz Bandali, Robert Rieder and Stephen Rietiker are each independent under the NYSE Amex listing standards.

Modified Plurality Voting Policy

On December 5, 2008, the Inovio Board of Directors, upon recommendation from its Nomination and Corporate Governance Committee adopted a Modified Plurality Voting Policy as an addition to its Corporate Governance Policy. The Modified Plurality Voting Policy provides that any nominee for director in an uncontested election who receives (a) a greater number of votes "withheld" from his or her election than votes "for" his or her election and (b) votes "withheld" from his or her election that constitute thirty-five percent (35%) or more of the outstanding shares of Inovio common stock, must promptly tender his or her written resignation following the certification of the stockholder vote. The Inovio board of directors, in accordance with the procedures set out in the policy and upon a recommendation from the Nomination and Corporate Governance Committee, shall either accept such resignation or defer its acceptance for no more than thirty days to enable the Inovio board to maintain compliance with applicable rules and regulations. Inovio shall promptly disclose such determination on any pending resignation via a Current Report on Form 8-K. A copy of the Modified Plurality Voting Policy is posted to Inovio's website as part of Inovio's overall Corporate Governance Policy.

Code of Ethics

Inovio has adopted a Code of Ethics, which applies to all directors, officers and employees, including the principal executive officer, principal financial and accounting officer and controller. The purpose of the Code of Ethics is to promote honest and ethical conduct. The Code of Ethics was previously filed with our Annual Report on Form 10-K for the year ended December 31, 2004 as Exhibit 14.1 and is incorporated by reference as Exhibit 14.1 to this report. The Code of Ethics is also available on Inovio's website and available in print, without charge, upon written request to the Secretary at 11494 Sorrento Valley Road, San Diego, CA 92121-1318. Any amendments to or waivers of the Code of Ethics will be promptly posted on the Inovio's website at *www.inovio.com* or in a report on Form 8-K, as required by applicable laws.

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COMPLIANCE WITH SECTION 16(a) OF THE SECURITIES EXCHANGE ACT OF 1934

Section 16(a) of the Exchange Act requires Inovio's officers, directors and persons who beneficially own more than ten percent of our common stock to file with the Securities and Exchange Commission initial reports of ownership and reports of changes in beneficial ownership of our common stock. Officers, directors and 10% or greater stockholders are required by the SEC regulations to furnish us with copies of all Section 16(a) forms they file.

Based solely on Inovio's review of the copies of such reports furnished to Inovio's management believes that all officers, directors and greater than ten percent stockholders complied with the filing requirements of Section 16(a) for the year ended December 31, 2008.

ITEM 11. EXECUTIVE COMPENSATION

2008 Summary Compensation Table

The following table sets forth compensation information for 2008 and 2007 for our President and Chief Executive Officer, the Chief Financial Officer and HR Manager, the two other executive officers serving at December 31, 2008, one former executive officer who served during 2008, and the Managing Director of Inovio AS (collectively, the "Named Executive Officers"), whose salary and bonus exceeded $100,000 for 2008.

Name and Principal Position	Year	Salary (1)	Bonus (2)	Stock Awards (3)	Option Awards (4)	All Other Compensation	Total
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Dr. Avtar Dhillon, President and Chief Executive Officer	2008	$ 369,417		$102,218	$178,332	$ 18,725(5)	$ 656,025
	2007	$ 357,503	$116,375	$ 69,188	$391,394	$ 5,342	$ 939,802
Peter Kies, Chief Financial Officer and HR Manager	2008	$ 220,784			$ 98,931		$ 319,715
	2007	$ 206,966	$ 26,000		$128,244		$ 361,810
Michael Fons, Vice President, Corporate Development	2008	$ 197,061			$ 59,833	$ 3,220	$ 260,114
	2007	$ 188,180	$ 16,625		$ 81,877	$ 3,324	$ 290,006
Punit Dhillon, Vice President, Operations and Finance(6)	2008	$ 171,876			$ 85,517	$ 3,900	$ 261,293
	2007	$ 145,736	$ 13,300		$ 94,025	$ 3,900	$ 256,961
Dietmar Rabussay, Vice President, Research and Development(7)	2008	$ 69,506			$ 15,488	$ 114,723	$ 199,717
	2007	$ 185,391			$ 63,927	$ 5,200	$ 254,518
Iacob Mathiesen, Managing Director, Inovio AS(8)	2008	$ 188,556		$ 63,420	$ 51,543		$ 303,519
	2007	$ 179,449		$166,050	$ 62,985		$ 408,484

(1) Salary includes contributions made by the employee to Inovio's 401(k) plan.

(2) There were no bonuses paid for the year 2008. Bonus payment for 2007 were made in February 2008.

(3) Represents the compensation costs of stock awards, calculated for financial reporting purposes for the year utilizing the provisions of Statement of Financial Accounting Standards ("SFAS") No. 123R, rather than an amount paid to or realized by the named executive officer. See Note 10,

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"Stockholder's Equity," to our Audited Consolidated Financial Statements for information concerning the SFAS 123R values, which are based on the fair value of our common stock on the date of grant. There can be no assurance that the SFAS 123R amounts will ever be realized. The stock award to Dr. Dhillon includes compensation expense related to a 2007 restricted stock award of 75,000 shares of which 18,750 shares vested immediately at a fair value of $3.69 per share. The total value of the award was $276,750, and the remaining value vests annually in March over the next three years. The stock award to Dr. Dhillon also includes compensation expense related to a 2008 restricted stock award of 75,000 shares of which 18,750 shares vested immediately at a fair value of $0.87 per share. The total value of the award was $65,250, and the remaining value vests annually in February over the next three years. The stock award to Mr. Mathiesen includes compensation expense related to a restricted stock award in 2007 of 90,000 shares of which 45,000 shares vested immediately at a fair value of $3.69 per share. The total value of the award was $332,100, and the remaining value will vest in December 2009.

(4)

Represents the compensation costs of stock options calculated for financial reporting purposes for the year utilizing the provisions of SFAS No. 123R, rather than an amount paid to or realized by the named executive officer. See Note 10, "Stockholder's Equity" to our Audited Consolidated Financial Statements for the assumptions made in determining SFAS 123R values. Ratable amounts expensed for grants that were made in prior years are included. There can be no assurance that the SFAS 123R amounts will ever by realized by the named executive officer.

(5)

Consists of $6,058 of 401-k match and $12,667 of travel expenses for Dr. Dhillon's spouse reimbursed pursuant to our travel policy.

(6)

Officer was promoted from Executive Director, Finance and Operations in January 2008.

(7)

Officer resigned on May 2, 2008. Amounts included in all other compensation reflect severance payments paid on a bi-weekly basis through October 2008 as well as all unused accrued vacation and paid time off.

(8)

Managing Director of Inovio AS salary paid in Norwegian Kroners but translated to U.S. Dollars using the average exchange rate for 2008.

Grants of Plan Based Awards

The following table sets forth certain information with respect to stock and option awards and other plan-based awards granted to our named executive officers during 2008. Amounts representing Estimated Future Payouts Under Non-Equity Incentive Awards (i.e. thresholds, targets and minimums), and Estimated Future Payouts Under Equity Incentive Plan Awards (i.e. thresholds, targets and

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minimums) have not been reported in the following table as they are not applicable to our compensation program during 2008.

Name	Grant Date	All Other Stock Awards: Number of Shares of Stock (#)(1)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards ($/Share)	Grant Date Fair Value of Stock and Option Awards ($)
(a)	(b)	(c)	(d)	(e)	(f)
Avtar Dhillon,	2/1/2008		75,000	$ 0.87	$ 35,010
President and Chief Executive Officer	2/1/2008	75,000			$ 68,250
	12/9/2008		100,000	$ 0.50	$ 32,360
Peter Kies,					
	2/1/2008		30,000	$ 0.87	$ 14,004
Chief Financial Officer and	7/9/2008		60,000	$ 1.06	$ 34,230
HR Manager	12/9/2008		40,000	$ 0.50	$ 12,944
Michael Fons,					
	2/1/2008		20,000	$ 0.87	$ 34,230
Vice President, Corporate	7/9/2008		60,000	$ 1.06	$ 9,336
Development	12/9/2008		20,000	$ 0.50	$ 6,472
Punit Dhillon,					
	2/1/2008		50,000	$ 0.87	$ 23,340
Vice President, Finance and	7/9/2008		60,000	$ 1.06	$ 34,230
Operations	12/9/2008		70,000	$ 0.50	$ 22,652
Iacob Mathiesen,					
	7/9/2008		50,000	$ 1.06	$ 28,525
Managing Director, Inovio AS					

(1) The amount reflects the number of restricted stock awards granted on February 1, 2008 pursuant to the 2007 Omnibus Incentive Plan with a grant date fair value of $0.87 per share.

Options Exercised

There were no options exercised by our named executive officers during 2008.

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Outstanding Equity Awards at Fiscal Year-End Table

The following tables set forth certain information with respect to outstanding equity awards to the named executive officers under our equity incentive plans during 2008.

	OPTION AWARDS			
Name	**Number of Securities Underlying Unexercised Options (#) Exercisable**	**Number of Securities Underlying Unexercised Options (#) Unexercisable**	**Option Exercise Price ($)**	**Option Expiration Date**
(a)	**(b)**	**(c)**	**(d)**	**(e)**
Avtar Dhillon	100,000		2.08	10/09/2011
President and CEO	25,000		1.64	04/28/2012
	124,999		1.96	06/27/2012
	12,499		1.00	10/24/2012
	62,500		1.08	01/09/2013
	81,249		2.52	08/07/2013
	37,499		5.00	11/06/2013
	125,000		5.00	12/31/2013
	150,000		3.82	01/14/2015
	56,250	18,750	2.89	03/06/2016
	112,500	112,500	3.16	03/07/2017
	18,750	56,250	0.87	02/01/2018
	25,000	75,000	0.50	12/09/2018
	931,246	262,500		
Peter Kies				
	37,500		1.96	06/27/2012
CFO and HR Manager	7,500		1.00	10/24/2012
	12,500		1.24	03/24/2013
	14,375		2.52	08/07/2013
	20,000		4.46	02/24/2015
	33,750	11,250	2.89	03/06/2016
	37,500	37,500	3.16	03/07/2017
	7,500	22,500	0.87	02/01/2018
	15,000	45,000	1.06	07/09/2018
	10,000	30,000	0.50	12/09/2018
	195,625	146,250		
Michael Fons				
	37,500		5.32	06/16/2014
VP, Corporate Development	15,000	5,000	2.45	03/22/2016
	10,000	10,000	3.16	03/08/2017
	12,500	12,500	3.75	05/03/2017
	5,000	15,000	0.87	02/01/2018
	15,000	45,000	1.06	07/09/2018
	5,000	15,000	0.50	12/09/2018
	100,000	102,500		

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	OPTION AWARDS			
Name	**Number of Securities Underlying Unexercised Options (#) Exercisable**	**Number of Securities Underlying Unexercised Options (#) Unexercisable**	**Option Exercise Price ($)**	**Option Expiration Date**
(a)	**(b)**	**(c)**	**(d)**	**(e)**
Dietmar Rabussay(1)	3,750		16.52	02/06/2010
VP, Research and Development	500		6.00	08/24/2010
	6,250		6.28	05/16/2011
	7,500		1.80	10/23/2011
	7,500		1.64	04/28/2012
	7,500		1.00	10/24/2012
	12,500		1.24	03/24/2013
	19,937		2.52	08/07/2013
	10,000		4.46	02/24/2015
	33,750	11,250	2.89	03/06/2016
	12,500	12,500	3.16	03/07/2017
	121,687	23,750		
Punit Dhillon				
	25,000		2.76	06/30/2013
VP, Finance and Operations	6,250		2.52	08/07/2013
	15,000		4.33	02/24/2015
	26,250	8,750	2.45	03/22/2016
	20,000	20,000	3.16	03/08/2017
	7,500	7,500	3.75	05/03/2017
	12,500	37,500	0.87	02/01/2018
	15,000	45,000	1.06	07/09/2018
	17,500	52,500	0.50	12/09/2018
	145,000	171,250		
Iacob Mathiesen				
	15,000	5,000	2.45	03/22/2016
Managing Director, Inovio AS	10,000	10,000	3.16	03/08/2017
	12,500	12,500	3.75	05/03/2017
	12,500	37,500	1.06	07/09/2018
	50,000	65,000		

(1) Dietmar Rabussay resigned effective May 2, 2008 however remains with Inovio as a consultant. All options listed remain outstanding.

	STOCK AWARDS	
Name	**Number of Unvested Shares (#)(1)**	**Fair Market Value ($)**
(a)	**(b)**	**(c)**
Avtar Dhillon President & CEO	93,750	187,313
Iacob Mathiesen Managing Director, Inovio AS	45,000	166,050

	138,750	353,363

(1) The amount reflects the number of unvested restricted stock awards outstanding at December 31, 2008.

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Compensation Committee Interlocks and Insider Participation

In 2008, the Compensation Committee consisted of James L. Heppell (Chair), Simon Benito, Tazdin Esmail and Robert W. Rieder, each of whom is an independent director under the NYSE Amex listing standards. Other than James L. Heppell, who is a former officer of Inovio, no member of the Compensation Committee is a former or current officer or employee of Inovio.

During 2008, Avtar Dhillon, our Chief Executive Officer, served as a director of BC Advantage (VCC) Funds, Inc. James L. Heppell, a member of our Compensation Committee, serves as President and Fund Manager of BC Advantage (VCC) Funds, Inc.

No other persons who were members of the Compensation Committee during 2008 had any relationships requiring disclosure.

Compensation of Directors

During 2008, Inovio paid each non-employee director of Inovio (other than the Chairman of the Board) an annual retainer fee of $19,000 and paid the Chairman of the Board an annual retainer fee of $35,000. We pay or reimburse all reasonable expenses associated with directors' attendance at and participation in board and committee meetings and other company business which a director attends. For 2008, Inovio also paid an additional $9,000 to the Compensation Committee chairman as compensation for services as that committee's chairman, an additional $14,000 to the Audit Committee chairman as compensation for services as that committee's chairman, and an additional $5,000 to the Nomination and Corporate Governance Committee chairman as compensation for services as that committee's chair. Inovio also pays each non-employee director $1,500 for attendance at each Board meeting conducted in person and $750 for each Board meeting conducted telephonically.

Inovio does not pay director fees to its directors who are also Inovio employees. Thus, Dr. Dhillon does not receive director fees.

Non-employee directors are eligible to receive, from time to time, grants of options to purchase shares of common stock under the Plan as determined by the full Board of Directors. During the year ended December 31, 2008, Inovio granted 10-year options to purchase a total of 225,000 shares of its common stock to its non-employee directors. Mssrs. Bandali, Benito, Esmail, Heppell, Rieder and Rietiker received 15,000 shares each, at an exercise price of $0.89. Mr. Rietiker and Mr. Gan also received 30,000 shares each upon joining the Board of Directors in 2008, exercisable at $1.05 and $0.89, respectively. In August 2008, Mr. Heppell also received options to purchase 75,000 shares of common stock, exercisable at $1.03 per share. In December 2008, Mr. Chong also received options to purchase 15,000 shares of common stock, exercisable at $0.50 per share, which were disclaimed in conjunction with his resignation from the Board of Directors as reported on Form 8-K on February 6, 2009.

Director Compensation Table

The following table sets forth certain information with respect to director compensation during 2008. Amounts representing Stock Awards, Non-equity Incentive Plan Compensation and All Other

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Compensation are not included in the following table as they are not applicable to our compensation program during 2008.

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)(2)	Total ($)
(a)	(b)	(c)	(d)
James Heppell	58,250	42,144	100,394
Simon Benito	48,000	26,379	74,379
Tazdin Esmail	39,000	26,379	65,379
Riaz Bandali	28,000	26,379	54,379
Robert Rieder	31,750	33,607	65,357
Stephen Rietiker	23,250	12,693	35,943
Patrick Gan	15,500	3,182	18,682
Chin Cheong Chong(1)			

(1) In December 2008, Mr. Chong also received options to purchase 15,000 shares of its common stock, exercisable at $0.50 which were disclaimed in conjunction with the resignation from the Board of Directors as reported on Form 8-K on February 6, 2009.

(2) Represents the compensation costs of stock options calculated for financial reporting purposes for the year utilizing the provisions of SFAS No. 123R, rather than an amount paid to or realized by the director. See Note 10, "Stockholder's Equity" to our Audited Consolidated Financial Statements for the assumptions Stockholders' made in determining SFAS 123R values. Ratable amounts expensed for grants that were made in prior years are included. There can be no assurance that the SFAS 123R amounts will ever by realized by the director.

Employment Contracts, Termination of Employment and Change-in-Control Arrangements

Inovio has written employment agreements with each of its Executive Officers which have been filed as exhibits in filings with the Securities and Exchange Commission on Form 8-K filed on April 3, 2006 for Dr. Avtar Dhillon and Mr. Peter Kies; on August 21, 2007 for Dr. Michael Fons; and on March 12, 2008 for Mr. Punit Dhillon.

Under the employment agreement with Dr. Avtar Dhillon dated October 10, 2001, Dr. Dhillon serves as our President and Chief Executive Officer. Dr. Dhillon's employment agreement provided for an initial annual salary of $200,000 and periodic increases, as determined by the Board from time to time, but no less than an annual increase at least equal to the percentage increase in the cost of living in the San Diego Area over the previous year. Dr. Dhillon is also entitled to an annual bonus and stock option awards if certain milestone objectives agreed to between the Board and Dr. Dhillon each year are met, as determined by the Board, and four weeks of paid vacation each year. The term of Dr. Dhillon's employment agreement is for 10 years ending October 9, 2011, unless sooner terminated by Dr. Dhillon or by Inovio. If Dr. Dhillon's employment agreement is terminated by Inovio other than for cause as set forth in the agreement or as a consequence of Dr. Dhillon becoming permanently disabled, or if the employment agreement is terminated by Dr. Dhillon within 180 days after a "change of control" of Inovio as defined in the agreement, or by Dr. Dhillon for a breach by Inovio, Dr. Dhillon is entitled to receive a lump sum severance payment equal to two times his annual salary and bonus at the time of termination, plus the continuation of his health benefits (or payment of the amount necessary to secure the same) for one year after termination. If Dr. Dhillon's employment agreement is terminated by Inovio as a consequence of Dr. Dhillon becoming permanently disabled, Dr. Dhillon is entitled to receive a lump sum severance payment equal to his annual salary at the time

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of termination and his bonus based on the amount of such bonus most recently paid to him, pro rated from January 1 of the year of termination through date of termination.

Under the employment agreement with Peter Kies, dated December 15, 2003, Mr. Kies serves as our Chief Financial Officer. Mr. Kies' employment agreement provided for an initial annual salary of $180,000 to be periodically increased by such amounts as determined by the Board from time to time. Mr. Kies is also entitled to an annual bonus (which may consist of cash, stock or stock options) if certain milestone objectives agreed to between the Board and Mr. Kies each year are met, three weeks of paid vacation each year and such stock options as may be approved by the Board. The term of Mr. Kies employment agreement is for 10 years ending December 14, 2013, unless sooner terminated by Mr. Kies or by Inovio. If Mr. Kies's employment agreement is terminated by Inovio other than for cause as set forth in the agreement or as a consequence of Mr. Kies becoming permanently disabled, or if the employment agreement is terminated by Mr. Kies for a breach by Inovio, including termination of employment following a change of control, Mr. Kies is entitled to receive a severance payment, payable in such regular intervals as may determined by Inovio, equal to (a) one-half of his annual salary for the year prior to the date of termination, and (b) his bonus based on the amount of such bonus most recently paid to him, pro rated from January 1 of the year of termination through date of termination.

Under the employment contract with Dr. Michael Fons, dated August 31, 2007, Mr. Fons serves as our Vice President, Corporate Development. Dr. Fon's employment agreement provides for an initial annual salary of $195,050 to be periodically increased by such amounts as determined by the Board from time to time. Dr. Fons is also entitled to an annual bonus (which may consist of cash, stock or stock options) if certain milestone objectives agreed to between the Board and Dr. Fons each year are met, three weeks of paid vacation each year, and such stock options as may be approved by the Board. The term of Dr. Fons employment agreement is for 10 years ending August 30, 2017, unless sooner terminated by Dr. Fons or by Inovio. If Dr. Fons' employment agreement is terminated by Inovio other than for cause as set forth in the agreement or as a consequence of Dr. Fons becoming permanently disabled, or if the employment agreement is terminated by Dr. Fons for a breach by Inovio, including termination of employment following a change of control, Dr. Fons is entitled to receive a severance payment, payable in such regular intervals as may determined by Inovio, equal to (a) one-half of his annual salary for the year prior to the date of termination, and (b) his bonus based on the amount of such bonus most recently paid to him, pro rated from January 1 of the year of termination through date of termination.

Under the employment contract with Punit Dhillon, dated March 12, 2008, Mr. Dhillon serves as our Vice President, Finance and Operation. Mr. Dhillon's employment agreement provides for an initial annual salary of $176,000 to be periodically increased by such amounts as determined by the Board from time to time. Mr. Dhillon is also entitled to an annual bonus (which may consist of cash, stock or stock options) if certain milestone objectives agreed to between the Board and Mr. Dhillon each year are met, three weeks of paid vacation each year, and such stock options as may be approved by the Board. The term of Mr. Dhillon's employment agreement is for 10 years ending March 12, 2018, unless sooner terminated by Mr. Dhillon or by Inovio. If Mr. Dhillon's employment agreement is terminated by Inovio other than for cause as set forth in the agreement or as a consequence of Mr. Dhillon becoming permanently disabled, or if the employment agreement is terminated by Mr. Dhillon for a breach by Inovio, including termination of employment following a change of control, Mr. Dhillon is entitled to receive a severance payment, payable in such regular intervals as may determined by Inovio, equal to (a) one-half of his annual salary for the year prior to the date of termination, and (b) his bonus based on the amount of such bonus most recently paid to him, pro rated from January 1 of the year of termination through date of termination.

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Our executive officers participate, while they are employees, in all employee benefits maintained by Inovio, including any group disability plan, insurance plan, medical and dental plans, and are entitled to reimbursement of all reasonable out-of-pocket Inovio-related expenses.

Equity Compensation Plan Information

The following table sets forth the Company's equity compensation plan information as of December 31, 2008:

Plan	Number of securities to be issued upon exercise of outstanding options	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders:			
2007 Omnibus Incentive Plan	1,465,812	$ 0.90	42,938
Amended 2000 Stock Option Plan	3,136,152	3.06	
1997 Stock Option Plan	14,750	15.59	
	4,616,714	$ 2.42	42,938

2007 Omnibus Incentive Plan

The following summary of the Inovio Biomedical Corporation 2007 Omnibus Incentive Plan (the "Plan"), for which option awards were granted during 2008 is qualified in its entirety by the specific language of the Plan, a copy of which is incorporated by reference to Exhibit 4.2 of our Registration Statement on Form S-8 filed on May 24, 2007, and available to any stockholder upon request to Peter Kies, by phone at (858) 597-6006, fax at (858) 597-0451, email at *pkies@Inovio.com*, or mail at 11494 Sorrento Valley Rd., San Diego, CA 92121-1318.

General. The Plan provides for the grant of Incentive Stock Options ("ISOs") and Nonstatutory Stock Options ("NSOs"). As of March 2, 2009, we had outstanding options under the Plan to purchase an aggregate of 1,392,062 shares of our common stock at per share exercise prices ranging from $0.25 to $3.75.

Shares subject to the Plan. In the event of any stock dividend, stock split, reverse stock split, recapitalization, combination, reclassification, or similar change in the capital structure of Inovio, appropriate adjustments will be made to the shares subject to the Plan, and to outstanding options. To the extent any outstanding option under the Plan expires or terminates prior to exercise in full or if Inovio repurchases shares issued upon exercise of an option, the shares of common stock for which that option is not exercised or the repurchased shares are returned to the Plan and will again be available for issuance under the Plan.

Administration. The Compensation Committee of the Board administers the Plan. All option grants are approved by the Compensation Committee, except that our Chief Executive Officer and/or Chairman of the Board of Directors may approve option grants to persons below the level of Vice President of Inovio to a maximum individual grant of 50,000 options. With respect to the participation of individuals whose transactions in Inovio's equity securities are subject to Section 16 of the Securities Exchange Act of 1934, the Plan must be administered in compliance with the requirements, if any, of Rule 16b-3 under the Exchange Act. Subject to the provisions of the Plan, the Compensation Committee determines the persons to whom options are to be granted, the number of shares to be covered by each option, whether an option is to be an ISO or a NSO, the terms of vesting and exercisability of each option, including the effect thereon of an optionee's termination of service, the type of consideration to be paid to Inovio upon exercise of an option, the duration of each option, and

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all other terms and conditions of the options. Accordingly, future grants under the Plan are not yet determinable.

Eligibility. Generally, all employees, directors and consultants of Inovio or of any present or future parent or subsidiary corporations of Inovio are eligible to participate in the Plan. In addition, the Plan also permits the grant of options to prospective employees, consultants and directors in connection with written offers of employment or engagement. Any person eligible under the Plan may be granted a NSO. However, only employees may be granted ISOs.

Terms and conditions of options. Each option granted under the Plan is evidenced by a written agreement between Inovio and the optionee specifying the number of shares subject to the option and the other terms and conditions of the option, consistent with the requirements of the Plan. The exercise price per share must equal at least the fair market value of a share of Inovio's common stock on the date of grant of the stock option. The exercise price of any ISO granted to a person who at the time of grant owns stock possessing more than 10% of the total combined voting power of all classes of stock of Inovio or any parent or subsidiary corporation of Inovio, referred to as a 10% Stockholder, must be at least 110% of the fair market value of a share of Inovio's common stock on the date of grant.

Generally, the exercise price may be paid in cash, by check, or in cash equivalent, by tender of shares of Inovio's common stock owned by the optionee having a fair market value not less than the exercise price, by the assignment of the proceeds of a sale or a loan with respect to some or all of the shares of common stock being acquired upon the exercise of the option, by means of a promissory note, by any lawful method approved by the board or by any combination of these. The Compensation Committee may nevertheless restrict the forms of payment permitted in connection with any option grant.

The Compensation Committee will specify when options granted under the Plan will become exercisable and vested. Shares subject to options generally vest and become exercisable in installments, subject to the optionee's continued employment or service or achievement of specified milestones.

Change in control. Upon a change in control, as defined in the Plan, the Compensation Committee may arrange for the acquiring or successor corporation to assume or substitute new options for the options outstanding under the Plan. To the extent that the options outstanding under the Plan are not assumed, substituted for, or exercised prior to such event, generally, they will terminate.

Termination or amendment. Unless sooner terminated, no ISOs may be granted under the Plan after July 30, 2010. The Board may terminate or amend the Plan at any time, but, no amendment may adversely affect an outstanding option without the consent of the optionee, unless the amendment is required to preserve the option's status as an ISO or is necessary to comply with any applicable law.

Federal Income Tax Consequences of the 2007 Omnibus Incentive Plan

The following summary is intended only as a general guide as to the United States federal income tax consequences under current law of participation in the Plan and does not attempt to describe all possible federal or other tax consequences of such participation or tax consequences based on particular circumstances.

ISOs. An optionee recognizes no taxable income for regular income tax purposes as the result of the grant or exercise of an ISO qualifying under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"). Optionees who do not dispose of their shares for two years following the date the option was granted or within one year following the exercise of the option will normally recognize a long-term capital gain or loss equal to the difference, if any, between the sale price and the purchase price of the shares. If an optionee satisfies such holding periods upon a sale of the shares, Inovio will

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not be entitled to any deduction for federal income tax purposes. If an optionee disposes of shares within two years after the date of grant or within one year from the date of exercise, referred to as a disqualifying disposition, the difference between the fair market value of the shares on the exercise date, and the option exercise price, not to exceed the gain realized on the sale if the disposition is a transaction with respect to which a loss, if sustained, would be recognized, will be taxed as ordinary income at the time of disposition. Any gain in excess of that amount will be a capital gain. If a loss is recognized, there will be no ordinary income, and such loss will be a capital loss. A capital gain or loss will be long-term if the optionee's holding period is more than 12 months. Generally, for federal income tax purposes, Inovio should be able to deduct any ordinary income recognized by the optionee upon the disqualifying disposition of the shares, except to the extent the deduction is limited by applicable provisions of the Code or the regulations thereunder.

The difference between the option exercise price and the fair market value of the shares on the exercise date of an ISO is an adjustment in computing the optionee's alternative minimum taxable income and may be subject to an alternative minimum tax which is paid if the tax exceeds the regular tax for the year. Special rules may apply with respect to certain subsequent sales of the shares in a disqualifying disposition, certain basis adjustments for purposes of computing the alternative minimum taxable income on a subsequent sale of the shares and certain tax credits that may arise with respect to optionees subject to the alternative minimum tax.

NSOs. Options not designated or qualifying as ISOs will be NSOs. NSOs have no special tax status. An optionee generally recognizes no taxable income as the result of the grant of such an option. Upon exercise of a NSO, the optionee normally recognizes ordinary income in an amount equal to the difference between the option exercise price and the fair market value of the shares on the exercise date. If the optionee is an employee, the ordinary income generally is subject to withholding of income and employment taxes. Upon the sale of stock acquired by the exercise of a NSO, any gain or loss, based on the difference between the sale price and the fair market value on the exercise date, will be taxed as capital gain or loss. A capital gain or loss will be long-term if the optionee's holding period is more than 12 months. No tax deduction is available to Inovio with respect to the grant of a NSO or the sale of the stock acquired pursuant to that grant. Inovio generally should be entitled to a deduction equal to the amount of ordinary income recognized by the optionee as a result of the exercise of a NSO, except to the extent the deduction is limited by applicable provisions of the Code or the regulations thereunder.

401(k) Plan

Inovio has in place a contributory retirement plan (the "401(k) Plan") for all full time employees age 21 and older with at least 12 months of service, which is designed to be a tax deferred plan in accordance with the provisions of Section 401(k) of the Code. The 401(k) Plan provides that each participant may contribute up to 15% of his or her salary and Inovio may make a contribution equal to a percentage of salary contributed by the participant to his or her plan account at the end of each plan year. Under the 401(k) Plan, employees may elect to enroll on January 1, April 1, July 1 and October 1 of any plan year, provided that they have been employed by Inovio for at least three months. Subject to the rules for maintaining the tax status of the 401(k) Plan, an additional contribution by Inovio may be made at Inovio's discretion.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information as of March 16, 2009, with respect to the beneficial ownership of Inovio's common stock by (i) each person known to Inovio to be the beneficial owners of more than 5% of its common stock, (ii) each of Inovio's directors and nominees for director, (iii) each of Inovio's executive officers, and (iv) all of Inovio's directors and executive officers as a group.

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Beneficial ownership is determined in accordance with the rules of the SEC. In computing the number of shares beneficially owned by a stockholder and the percentage of ownership of that stockholder, shares of common stock underlying shares of convertible preferred stock, options or warrants held by that stockholder that are convertible or exercisable, as the case may be, within 60 days of March 16, 2009 are included. Those shares, however, are not deemed outstanding for the purpose of computing the percentage ownership of any other person. Each stockholder's percentage of ownership in the following table is based upon 44,041,800 shares of Inovio common stock outstanding as of March 16, 2009.

Beneficial Owner of Shares of Common Stock(1)(2)	Amount and Nature of Beneficial Ownership of Shares of Common Stock	Percent of Class of Shares of Common Stock
5% Stockholders:(3)		
None		
Directors, Director Nominees and Executive Officers:		
Avtar Dhillon(4)	1,164,357	2.58%
James L. Heppell(5)	226,519	*
Riaz Bandali(6)	86,655	*
Simon X. Benito(7)	99,983	*
Tazdin Esmail(8)	150,723	*
Robert W. Rieder(9)	34,999	*
Stephen Rietiker(10)	330,000	*
Patrick Gan(11)	9,999	*
Peter Kies(12)	235,201	*
Michael Fons(13)	121,275	*
Punit Dhillon(14)	181,214	*
All executive officers and directors as a group(15) (11 persons)	2,640,925	5.93%

*
Less than 1%

(1)
This table is based upon information supplied by officers, directors and principal stockholders. Except as shown otherwise in the table, the address of each stockholder listed is in care of Inovio at 11494 Sorrento Valley Rd., San Diego, California 92121-1318.

(2)
Except as otherwise indicated in the footnotes of this table and pursuant to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities.

(3)
To Inovio's knowledge, as of March 16, 2009, no individual or group beneficiary held 5% or more of its common stock.

(4)
Includes 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of March 16, 2009, and 1,024,996 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(5)
Includes 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of March 16, 2009, and 212,809 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

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(6) 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 March 16, 2009, and 82,500 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(7) Includes 1,544 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of March 16, 2009, and 91,250 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(8) Includes 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of March 16, 2009, and 141,250 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(9) Includes 34,999 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(10) Includes 30,000 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(11) Includes 9,999 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(12) Includes 514 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of March 16, 2009, and 233,125 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(13) Includes 121,250 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

(14) Includes 1,029 shares underlying warrants that are convertible or exercisable, respectively, within 60 days of March 16, 2009, and 180,000 shares of common stock issuable pursuant to options exercisable within 60 days of March 16, 2009.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Procedures for Approval of Related Party Transactions

Our executive officers, directors and principal stockholders, including their immediate family members and affiliates, are prohibited from entering into a related party transaction with us without the prior consent of our Board of Directors. We have an unwritten policy that any request for us to enter into a transaction with an executive officer, director, principal stockholder or any of such persons' immediate family members or affiliates in which the amount involved exceeds $120,000 must first be presented to our Board of Directors for review, consideration and approval. In approving or rejecting the proposed agreement, our Board of Directors will consider the relevant facts and circumstances available and deemed relevant, including, but not limited to, the risks, costs, and benefits to the Company, the terms of the transactions, the availability of other sources for comparable services or products, and, if applicable, the impact on director independence. Our Board of Directors shall only approve those agreements that, in light of known circumstances, are in, or are not inconsistent with, our best interests, as determined in good faith by the Board. We currently have no related party transactions requiring such approval.

Director Independence

See Item 10 "Directors, Executive Officers and Corporate Governance" for a discussion of board member independence.

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ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

PRINCIPAL ACCOUNTING FIRM FEES

During the years ended December 31, 2008 and 2007, Inovio retained Ernst & Young LLP to provide services as follows:

Year	Audit Fees	Tax Fees	Total Fees
2008	$568,532	$51,830	$620,362
2007	$583,722	$98,200	$681,922

Audit Fees. Audit fees include fees for the audit of Inovio's annual consolidated financial statements and fees for the review of Inovio's interim financial statements. Audit fees also include other services that generally only the independent auditor can reasonably provide, including comfort letters, statutory audits, attest services, and consents and assistance with and review of documents filed with the SEC.

Tax Fees. Tax fees include fees for services performed by the professional staff in the tax department of Ernst & Young LLP except for those tax services that could be classified as audit or audit-related services. These include tax compliance and various tax consultation fees.

None of the fees listed above were approved by the Audit Committee in reliance on a waiver from pre-approval under Rule 2-01(c)(7)(i)(C) of Regulation S-X.

Audit Committee Pre-Approval Policies and Procedures

The Audit Committee on an annual basis reviews audit and non-audit services performed by the independent registered public accounting firm for such services. The Audit Committee may also pre-approve particular services on a case-by-case basis. All audit and non-audit services are pre-approved by the Audit Committee, which considers, among other things, the possible effect of the performance of such services on the accounting firm's independence. The Audit Committee has considered the role of Ernst & Young LLP in providing services to Inovio for the year ended December 31, 2008 and has concluded that such services are compatible with Ernst & Young LLP's independence as Inovio's independent registered public accounting firm.

The Audit Committee will only approve those services that would not impair the independence of the independent registered public accounting firm and which are consistent with the rules of the Securities and Exchange Commission.

Under this policy, the Audit Committee meets at least annually to review and where appropriate approve the audit and non-audit services to be performed by Inovio's independent registered public accounting firm. Any subsequent requests to have the independent registered public accounting firm perform any additional services must be submitted in writing to the Audit Committee by the Chief Financial Officer, together with the independent registered public accounting firm, which written request must include an affirmation from each that the requested services are consistent with the Securities and Exchange Commission and Public Company Accounting Oversight Board's rules on auditor independence.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

1. Financial Statements

Consolidated financial statements required to be filed hereunder are indexed on Page F-2 hereof.

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2.

Financial Statement Schedules

Schedules not listed herein have been omitted because the information required to be set forth therein is not applicable or is included in the Financial Statements or notes thereto.

3.

Exhibits

The following exhibits are filed as part of this annual report on Form 10-K:

Exhibit Number	Description of Document
2.1#	Amended and Restated Agreement and Plan of Merger By and Among Inovio Biomedical Corporation, Inovio Acquisition, LLC, and VGX Pharmaceuticals, Inc. dated December 5, 2008 (included as *Annex A* to the registrant's Registration Statement on Form S-4). (File No. 333-156035), filed on January 23, 2009).
3.1(a)	Amended and Restated 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).
(b)	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).
(c)	Certificate of Amendment to 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).
3.2(a)	Certificate of Incorporation of Inovio Acquisition Corporation dated June 23, 2008 (incorporated by reference to Exhibit 3.2(a) of registrant's initial registration statement on Form S-4 (File No. 333-156035) on December 10, 2008).
(b)	Certificate of Conversion of Inovio Acquisition Corporation to Inovio Acquisition, LLC dated October 31, 2008 (incorporated by reference to Exhibit 3.2(b) of registrant's initial registration statement on Form S-4 (File No. 333-156035) on December 10, 2008).
(c)	Certificate of Formation of Inovio Acquisition, LLC dated October 31, 2008 (incorporated by reference to Exhibit 3.2(c) of registrant's initial registration statement on Form S-4 (File No. 333-156035) on December 10, 2008).
3.3(a)	Certificate of Designations, Rights and Preferences of Series C Convertible Preferred Stock of Registrant (incorporated by reference to Exhibit 3.3 of the registrant's Registration Statement on Form S-3 filed on June 21, 2004).
(b)	Certificate of Decrease of Shares of Series C Cumulative Convertible Preferred Stock of Registrant (incorporated by reference to Exhibit 3.4 of the registrant's Registration Statement on Form S-3 filed on June 21, 2004).
3.4	Amended and Restated Bylaws of Inovio Biomedical Corporation, as amended through November 30, 2007 (incorporated by reference to Exhibit 3.2 of the registrant's Form 8-K filed on December 6, 2007).

3.5 Operating Agreement of Inovio Acquisition, LLC, dated October 31, 2008 (incorporated by reference to Exhibit 3.5 of registrant's initial registration statement on Form S-4 (File No. 333-156035) on December 10, 2008).

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Exhibit Number	Description of Document
4.1	Amended 2000 Stock Option Plan, as amended by the Board of Directors through March 6, 2006 with approvals by Stockholders through May 5, 2006 (incorporated by reference to Exhibit 4.1 of the registrant's Registration Statement on Form S-8 filed on July 28, 2006).
4.2+	Forms of Incentive and Nonstatutory Stock Option Agreements used in connection with the 2000 Stock Option Plan (incorporated by reference to Exhibit 10.7 of the registrant's Registration Statement on Form S-4/A (File No. 333-58168) filed on April 5, 2001).
4.3	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and the University of South Florida Research Foundation (incorporated by reference to Exhibit 10.6 of the registrant's Form 10-Q filed on November 9, 2000).
4.4	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and Dr. Richard Gilbert (incorporated by reference to Exhibit 10.7 of the registrant's Form 10-Q filed on November 9, 2000).
4.5	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and Dr. Richard Heller (incorporated by reference to Exhibit 10.8 of the registrant's Form 10-Q filed on November 9, 2000).
4.6	Warrant to Purchase Common Stock, dated September 15, 2000 by and between the Registrant and Dr. Mark Jaroszeski (incorporated by reference to Exhibit 10.9 of the registrant's Form 10-Q filed on November 9, 2000).
4.7	Investors Rights Agreement, dated July 14, 2003, between the Registrant and the Purchasers listed on Schedule 1 thereto (incorporated by reference to Exhibit 4.2 of the registrant's Registration Statement on Form S-3 (File No. 333-108752) filed on September 12, 2003).
4.8	Specimen Common Stock certificate (incorporated by reference to Exhibit 4.8 of the registrant's Registration Statement on Form S-3 (File No. 333-108752) filed on September 12, 2003).
4.9	Investor Rights Agreement dated as of May 10, 2004 by and between the registrant and the purchasers indicated on the schedule thereto (incorporated by reference to Exhibit 4.2 of the registrant's Registration Statement on Form S-3 filed on June 21, 2004).
4.10	Form of Series C Common Stock Purchase Warrant dated as of May 10, 2004 by and between the registrant and the purchasers indicated on the schedule thereto (incorporated by reference to Exhibit 4.3 of the registrant's Registration Statement on Form S-3 filed on June 21, 2004).
4.11	Registration Rights Agreement dated December 30, 2005, by and among the registrant and the investors named on the signature pages thereto (incorporated by reference to Exhibit 99.3 to registrant's Form 8-K filed with the Securities and Exchange Commission on January 6, 2006).
4.12	Form of Common Stock Purchase Warrant dated as of September 15, 2006 by and between the registrant and each of the purchasers listed on Schedule 1 to the Securities Purchase Agreement (Exhibit 10.23 herein) (incorporated by reference to Exhibit 4.3 of the registrant's Current Report on Form 8-K filed on September 20, 2006).

4.13	Registration Rights Agreement dated as of September 15, 2006 by and among registrant and certain investors indicated on a schedule thereto (incorporated by reference to Exhibit 10.5 of the registrant's Quarterly Report on Form 10-Q filed on November 9, 2006).

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Exhibit Number	Description of Document
4.14	Form of Common Stock Purchase Warrant to be used by and between the registrant and each of the purchasers listed on Schedule 1 to the Securities Purchase and Exchange Agreement (Exhibit 10.25 herein) (incorporated by reference to Exhibit 4.24 of the registrant's Annual Report on Form 10-K filed on March 16, 2007).
4.15+	First Amended and Restated Inovio Biomedical Corporation 2007 Omnibus Incentive Plan (incorporated by reference to Exhibit 4.2 of the registrant's Registration Statement on Form S-8 filed on May 9, 2008).
4.16+	Form of Restricted Stock Award Grants under the 2007 Omnibus Stock Incentive Plan (incorporated by reference to Exhibit 4.3 to the Registrant's Registration Statement on Form S-8 filed on May 14, 2007).
4.17+	Form of Incentive and Non-Qualified Stock Option Grants under the 2007 Omnibus Stock Incentive Plan (incorporated by reference to Exhibit 4.4 to the Registrant's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on May 14, 2007).
10.1	Lease Agreement by and between the registrant and Nexus Sorrento Glen LLC dated August 26, 1999 (incorporated by reference to Exhibit 10.15 of the registrant's Registration Statement on Form S-1, as amended (File No. 333-88427), filed on October 5, 1999).
10.2	License Agreement dated September 20, 2000 by and between the registrant and the University of South Florida Research Foundation, Inc. (incorporated by reference to Exhibit 10.5 of the registrant's Form 10-Q filed on November 9, 2000).
10.3	Asset Purchase Agreement by and among the Registrant, Genetronics, Inc., a subsidiary of the Registrant, and Harvard Bioscience, Inc. dated December 24, 2002 (incorporated by reference to Exhibit A to the registrant's Definitive Proxy Statement filed on January 7, 2003).
10.4	Preferred Stock and Warrant Purchase Agreement dated as of May 10, 2004 by and between the registrant and the purchasers indicated on the schedule thereto (incorporated by reference to Exhibit 4.1 of the registrant's Registration Statement on Form S-3 filed on June 21, 2004).
10.5	Non-Exclusive License and Research Collaboration Agreement dated as of May 21, 2004 by and among the registrant and Merck & Co., Inc. and Genetronics, Inc., a subsidiary of the registrant (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on August 13, 2004).
10.6	Lease Agreement by and between the registrant and Sorrento Centre Tenancy in Common dated November 29, 2004 (incorporated by reference to Exhibit 10.16 of the registrant's Annual Report of Form 10-K for the year ended December 31, 2004, filed on March 15, 2005).
10.7	Lease Amendment #3 by and between the registrant and Nexus Sorrento Glen LLC dated January 21, 2005 (incorporated by reference to Exhibit 10.17 of the registrant's Annual Report of Form 10-K for the year ended December 31, 2004, filed on March 15, 2005).
10.8	Stock Purchase Agreement dated January 25, 2005 by and among the registrant, Inovio AS and the Shareholders of Inovio AS (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on January 31, 2005).

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Exhibit Number	Description of Document
10.9	Securities Purchase Agreement dated as of December 16, 2005, among registrant and each purchaser identified on the signature pages thereto (incorporated by reference to Exhibit 99.1 of the registrant's Report of Form 8-K, filed on January 6, 2006).
10.10	License Agreement dated September 15, 2006 between registrant and Inovio Asia Pte. Ltd. (incorporated by referenced to Exhibit 10.1 to registrant's Quarterly Report on Form 10-Q filed on November 9, 2006).
10.11	Securities Purchase Agreement dated September 15, 2006 between registrant and purchasers named therein (incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed on September 20, 2006).
10.12	Amendment to Securities Purchase Agreement, amending the Securities Purchase Agreement filed as Exhibit 10.27 (incorporated by reference to Exhibit 4.3 of the registrant's Current Report on Form 8-K filed on October 16, 2006).
10.13	Securities Purchase and Exchange Agreement between registrant and Inovio Asia Pte. Ltd. and the purchasers named therein, dated September 15, 2006 (incorporated by referenced to Exhibit 10.2 to registrant's Quarterly Report on Form 10-Q filed on November 9, 2006).
10.14	Preferred Exchange Agreement dated September 15, 2006 between registrant and certain holders of Series C Preferred Stock (incorporated by referenced to Exhibit 4.4 of the registrant's Registration Statement on Form S-3, filed January 19, 2007).
10.15	Securities Purchase Agreement dated May 14, 2007 relating to the Direct Financing between registrant and purchasers named therein (incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K, filed May 16, 2007).
10.16	Letter Agreement Dated August 3, 2007 between Registrant and Asia Life Sciences Venture Consulting Inc. (incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed August 6, 2007).
10.17	Form of Warrant to Purchase Common Stock (incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed August 6, 2007).
10.18+	Employment Agreement dated August 31, 2007 by and between the registrant and Dr. Michael Fons (incorporated by reference to Exhibit 99.2 of the registrant's Current Report on Form 8-K/A filed September 10, 2007).
10.19+	Employment Agreement for Punit Dhillon dated March 12, 2008 (incorporated by reference to Exhibit 99.2 of the registrant's Current Report on Form 8-K/A, filed March 14, 2008).
10.20+	Consulting Agreement dated May 3, 2008 by and between Dietmar Rabussay and Genetronics, Inc. (incorporated by reference to Exhibit 10.1 of the registrant's Current Report on Form 8-K, filed May 7, 2008).
10.21+	Addendum to P. Kies Employment Agreement, dated July 2, 2008 (incorporated by reference to Exhibit 10.1 of the registrant's Current Report on Form 8-K, filed July 8, 2008).
10.22+	Form of Employment Agreement by and between the registrant and Dr. Michael Fons, for use effective only upon closing of the Merger (incorporated by reference to Exhibit 10.22 as filed with the registrant's registration statement on Form S-4 (File

No. 333-156035) on December 10, 2008).

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Exhibit Number	Description of Document
10.23+	Form of Employment Agreement by and between the registrant and Punit Dhillon, for use effective only upon closing of the Merger (incorporated by reference to Exhibit 10.23 as filed with the registrant's registration statement on Form S-4 (File No. 333-156035) on December 10, 2008).
10.24+	Form of Employment Agreement by and between the registrant and Peter Kies, effective only upon closing of the Merger (incorporated by reference to Exhibit 10.24 as filed with the registrant's registration statement on Form S-4 (File No. 333-156035) on December 10, 2008).
10.25+	Form of Employment Agreement by and between the registrant and Dr. Avtar Dhillon, for use effective only upon closing of the Merger (incorporated by reference to Exhibit 10.25 as filed with the registrant's registration statement on Form S-4 (File No. 333-156035) on December 10, 2008).
14.1	Inovio Biomedical Corporation Code of Ethics for Senior Officers (incorporated by reference to Exhibit 14.1 of the registrant's Annual Report on Form 10-K for the year ended December 31, 2004, filed on March 15, 2005).
21.1	Subsidiaries of the registrant.
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney (included on signature page).
31.1	Certification of the Chief Executive Officer pursuant Securities Exchange Act Rule 13a-14(a).
31.2	Certification of the Chief Financial Officer pursuant Securities Exchange Act Rule 13a-14(a).
32.1	Certification pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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The registrant hereby agrees to furnish the staff, on a confidential basis, a supplemental copy of any omitted schedule upon the staff's request.

+

Designates management contract, compensatory plan or arrangement.

We have applied with the Secretary of the Securities and Exchange Commission for confidential treatment of certain information pursuant to Rule 24b-2 of the Securities Exchange Act of 1934. We have filed separately with our application a copy of the exhibit including all confidential portions, which may be made available for public inspection pending the Securities and Exchange Commission's review of the application in accordance with Rule 24b-2.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on March 31, 2009.

Inovio Biomedical Corporation

By: /s/ AVTAR DHILLON

Avtar Dhillon
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Avtar Dhillon and Peter Kies, and each of them severally, his or her true and lawful attorney-in-fact with power of substitution and resubstitution to sign in his or her name, place and stead, in any and all capacities, to do any and all things and execute any and all instruments that such attorney may deem necessary or advisable under the Securities Exchange Act of 1934 and any rules, regulations and requirements of the U.S. Securities and Exchange Commission in connection with the Annual Report on Form 10-K and any and all amendments hereto, as fully for all intents and purposes as he or she might or could do in person, and hereby ratifies and confirms all said attorneys-in-fact and agents, each acting alone, and his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ AVTAR DHILLON Avtar Dhillon	President, Chief Executive Officer (Principal Executive Officer), Director	March 31, 2009
/s/ PETER KIES Peter Kies	Chief Financial Officer (Principal Accounting Officer and Principal Financial Officer)	March 31, 2009
/s/ JAMES L. HEPPELL James L. Heppell	Director	March 31, 2009
/s/ RIAZ BANDALI Riaz Bandali	Director	March 31, 2009
/s/ TAZDIN ESMAIL Tazdin Esmail	Director	March 31, 2009

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Signature	Title	Date
/s/ SIMON X. BENITO Simon X. Benito	Director	March 31, 2009
/s/ ROBERT W. RIEDER Robert W. Rieder	Director	March 31, 2009
/s/ STEPHEN RIETIKER Stephen Rietiker	Director	March 31, 2009
/s/ PATRICK GAN Patrick Gan	Director	March 31, 2009

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INOVIO BIOMEDICAL CORPORATION

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Inovio Biomedical Corporation

We have audited the accompanying consolidated balance sheets of Inovio Biomedical Corporation as of December 31, 2008 and 2007 and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2008. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Inovio Biomedical Corporation at December 31, 2008 and 2007 and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2008, in conformity with U.S. generally accepted accounting principles.

/s/ Ernst & Young LLP

San Diego, California
March 27, 2009

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Inovio Biomedical Corporation

CONSOLIDATED BALANCE SHEETS

	As of December 31,	
	2008	**2007**
ASSETS		
Current assets:		
Cash and equivalents	$ 14,115,281	$ 10,250,929
Short-term investments		16,999,600
Accounts receivable	671,187	1,139,966
Prepaid expenses and other current assets	477,285	613,656
Total current assets	15,263,753	29,004,151
Long-term investments	9,169,471	
Auction rate security rights	4,281,494	
Fixed assets, net	353,807	401,727
Intangible assets, net	5,850,540	6,186,430
Goodwill	3,900,713	3,900,713
Other assets	167,250	282,000
Total assets	$ 38,987,028	$ 39,775,021
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,367,300	$ 1,807,305
Accrued clinical trial expenses	399,919	573,767
Line of credit	12,109,423	
Common stock warrants	224,582	367,071
Deferred revenue	523,544	544,410
Deferred rent	84,814	61,946
Total current liabilities	14,709,582	3,354,499
Deferred revenue, net of current portion	4,269,151	4,335,806
Deferred rent, net of current portion	14,898	99,712
Deferred tax liabilities	887,250	950,250
Total liabilities	19,880,881	8,740,267
Commitments and contingencies		
Stockholders' equity:		
Preferred stock par value $0.001; Authorized shares: 10,000,000, issued and outstanding: 71 and 113,382 at December 31, 2008 and December 31, 2007, respectively		113
Common stock par value $0.001; Authorized shares: 300,000,000, issued and outstanding: 44,116,800 and 44,023,050 at December 31, 2008 and 43,870,989 and 43,814,739 at December 31, 2007, respectively	44,022	43,815
Additional paid-in capital	171,868,914	170,730,621
Receivables from stockholders		(50,000)
Accumulated deficit	(152,812,948)	(139,847,326)
Accumulated other comprehensive income	6,159	157,531
Total stockholders' equity	19,106,147	31,034,754
Total liabilities and stockholders' equity	$ 38,987,028	$ 39,775,021

The accompanying notes are an integral part of these consolidated financial statements.

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Inovio Biomedical Corporation

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended December 31,		
	2008	**2007**	**2006**
Revenue:			
License fee and milestone payments	$ 791,401	$ 2,793,478	$ 1,337,105
Revenue under collaborative research and development arrangements	1,077,967	1,854,303	962,207
Grants and miscellaneous revenue	228,264	159,948	1,168,866
Total revenue	2,097,632	4,807,729	3,468,178
Operating expenses:			
Research and development	5,750,494	9,625,947	8,509,785
General and administrative	10,005,602	11,080,202	8,304,587
Total operating expenses	15,756,096	20,706,149	16,814,372
Loss from operations	(13,658,464)	(15,898,420)	(13,346,194)
Other income, net	49,006	3,421,580	320,706
Interest income, net	643,836	1,272,397	681,546
Net loss	(12,965,622)	(11,204,443)	(12,343,942)
Imputed and declared dividends on preferred stock		(23,335)	(2,005,664)
Net loss attributable to common stockholders	$(12,965,622)	$(11,227,778)	$(14,349,606)
Amounts per common share basic and diluted:			
Net loss	$ (0.30)	$ (0.27)	$ (0.40)
Imputed and declared dividends on preferred stock			(0.06)
Net loss attributable to common stockholders	$ (0.30)	$ (0.27)	$ (0.46)
Weighted average number of common shares outstanding basic and diluted	43,914,004	41,493,412	31,511,683

The accompanying notes are an integral part of these consolidated financial statements.

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Inovio Biomedical Corporation

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Preferred stock		Common stock						
	Number of shares	Amount	Number of shares	Amount	Additional paid-in capital	Receivables From stockholders	Accumulated deficit	Accumulated other Comprehensive (loss) income	Total stockholders' equity
Balance at December 31, 2005	1,562,424	1,562	29,468,756	29,469	137,739,954		(114,269,942)	(30,295)	23,470,748
Exercise of stock options for cash			148,629	148	251,280				251,428
Issuance of common stock for patents and other assets			86,956	87	128,835				128,922
Issuance of stockholder note receivable					86,030	(86,030)			
Issuance of common stock for cash, net of issuance costs of $1,161,070			4,074,067	4,074	5,058,931				5,063,005
Issuance of common stock for consulting services			49,261	49	99,951				100,000
Conversions of preferred stock to common stock	(534,355)	(534)	1,763,981	1,764	(1,230)				
Stock-based compensation			45,000	45	1,546,662				1,546,707
Imputed and declared dividends			2,871	3	1,873,317				1,873,320
Comprehensive loss:									
Net loss attributable to common stockholders							(14,349,606)		(14,349,606)
Foreign currency translation gain								67,340	67,340
Total comprehensive loss									(14,282,266)
Balance at December 31, 2006	1,028,069	$ 1,028	35,639,521	$ 35,639	$ 146,783,730	$ (86,030)	$ (128,619,548)	$ 37,045	$ 18,151,864
Exercise of stock options for cash			94,563	94	218,407				218,501
Exercise of warrants for cash			3,082	3	7,394				7,397
Cashless exercise of warrants			38,097	38	(38)				
Conversions of preferred stock to common stock	(914,687)	(915)	960,238	961	(46)				
Conversions of ordinary shares to common stock			2,201,644	2,202	5,347,793				5,349,995
Cash receipt towards stockholder notes receivable						36,030			36,030
Issuance of common stock for consulting services			263,750	264	610,762				611,026
Issuance of common stock for cash, net of issuance costs of $110,313			4,595,094	4,595	16,059,829				16,064,424
Stock-based compensation			18,750	19	1,702,790				1,702,809

Comprehensive loss:										
Net loss attributable to common stockholders								(11,227,778)		(11,227,778)
Unrealized gain on investments									9,945	9,945
Foreign currency translation gain									110,541	110,541
Total comprehensive loss										(11,107,292)
Balance at December 31, 2007	113,382	$ 113	43,814,739	$ 43,815	$ 170,730,621	$ (50,000)	$ (139,847,326)	$	157,531	$ 31,034,754

The accompanying notes are an integral part of these consolidated financial statements.

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Inovio Biomedical Corporation

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (Continued)

	Preferred stock		Common stock					Accumulated other	
	Number of shares	Amount	Number of shares	Amount	Additional paid-in capital	Receivables From stockholders	Accumulated deficit	Comprehensive (loss) income	Total stockholders' equity
Balance at December 31, 2007	113,382	$ 113	43,814,739	$ 43,815	$ 170,730,621	$ (50,000)	$ (139,847,326)	$ 157,531	$ 31,034,754
Exercise of stock options for cash			1,250	1	1,087				1,088
Conversions of preferred stock to common stock	(113,311)	(113)	113,311	113					
Reserve for stockholder note receivable						50,000			50,000
Issuance of common stock for consulting services			56,250	55	46,520				46,575
Stock-based compensation			37,500	38	1,090,686				1,090,724
Comprehensive loss:									
Net loss attributable to common stockholders							(12,965,622)		(12,965,622)
Unrealized loss on investments								(9,945)	(9,945)
Foreign currency translation loss								(141,427)	(141,427)
Total comprehensive loss									(13,116,994)
Balance at December 31, 2008	71		44,023,050	$ 44,022	$ 171,868,914		$ (152,812,948)	$ 6,159	$ 19,106,147

The accompanying notes are an integral part of these consolidated financial statements.

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Inovio Biomedical Corporation

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31,		
	2008	**2007**	**2006**
Cash flows from operating activities:			
Net loss	$(12,965,622)	$(11,204,443)	$(12,343,942)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	195,285	185,683	206,743
Amortization of intangible assets	797,742	831,958	767,900
Change in value of common stock warrants	(142,489)	(3,173,621)	(135,182)
Unrealized loss on trading securities	4,380,529		
Recognition of auction rate securities rights	(4,281,494)		
Stock-based compensation	1,090,724	1,702,809	1,546,707
Compensation for services paid in common stock	46,575	611,026	100,000
Amortization of deferred tax liabilities	(63,000)	(63,000)	(63,000)
Deferred rent	(61,946)	(66,832)	(57,385)
Impairment of long term investments	114,750		
Loss on disposal of fixed assets	9,792		
Realization of loss carryforwards		389,881	
Revenue from conversion of note payable			(10,810)
Accretion of discount on available-for-sale securities	(60,345)	(86,670)	
Changes in operating assets and liabilities:			
Accounts receivable	464,825	(726,884)	(57,631)
Prepaid expenses and other current assets	19,518	507,230	(400,417)
Accounts payable and accrued expenses	(583,841)	(321,080)	(233,894)
Deferred revenue	(87,521)	(99,806)	3,637,763
Net cash used in operating activities	(11,126,518)	(11,513,749)	(7,043,148)
Cash flows from investing activities:			
Purchases of long-term investments	(4,500,000)	(18,602,985)	(24,000,000)
Proceeds from long-term investments	8,000,000	16,400,000	9,300,000
Purchases of capital assets	(121,946)	(141,635)	(46,744)
Capitalization of patents and other assets	(461,852)	(504,095)	(1,318,431)
Net cash provided by (used in) investing activities	2,916,202	(2,848,715)	(16,065,175)
Cash flows from financing activities:			
Proceeds from issuance of common stock, net of issuance costs	1,088	16,290,322	8,975,735
Proceeds from line of credit	12,220,494		
Repayment of line of credit	(111,071)		
Reserve for stockholder note receivable	50,000		
Repayment of stockholder note receivable		36,030	
Proceeds from issuance of shares to minority interest			5,349,995
Payment of preferred stock cash dividend		(23,335)	(132,343)
Net cash provided by financing activities	12,160,511	16,303,017	14,193,387
Effect of exchange rate changes on cash	(85,843)	(11,230)	69,975
Increase (decrease) in cash and cash equivalents	3,864,352	1,929,323	(8,844,961)
Cash and cash equivalents, beginning of period	10,250,929	8,321,606	17,166,567

Cash and cash equivalents, end of period	$ 14,115,281	$ 10,250,929	$ 8,321,606

The accompanying notes are an integral part of these consolidated financial statements.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. The Company

Inovio Biomedical Corporation, or "Inovio," a Delaware corporation, organized in 2001, is a San Diego-based biomedical company focused on the development of next-generation vaccines to prevent or treat cancers and chronic infectious diseases. Such vaccines, which could potentially protect millions of people from debilitation or death from diseases without adequate treatments, may represent multi-billion dollar market opportunities. Historically, successful development of this new generation of vaccines DNA vaccines has been hindered by the lack of safe, efficient and cost effective DNA delivery methods capable of enabling their potency. However, Inovio's electroporation-based DNA delivery technology has shown potential in pre-clinical and clinical studies to play a pivotal role in facilitating delivery and enhancing the potency of preventive and therapeutic vaccines.

On July 7, 2008, Inovio and VGX Pharmaceuticals, Inc. ("VGX"), a privately-held developer of DNA vaccines, executed a definitive merger agreement providing for the issuance of Inovio shares in exchange for all of the outstanding securities of VGX and the merger of an acquisition subsidiary of Inovio with VGX (the "Merger"). Inovio and VGX subsequently negotiated an amended merger agreement (the "Amended Agreement"), which the parties executed on December 5, 2008. Completion of the Merger under the Amended Agreement is subject to registration with the SEC of the Inovio securities to be issued in the Merger, receipt of approval from both companies' stockholders, and other customary closing conditions.

2. Summary of Significant Accounting Policies

Basis of Presentation

Inovio incurred a net loss attributable to common stockholders of $13.0 million for the year ended December 31, 2008 and had an accumulated deficit of $152.8 million as of December 31, 2008. Management believes that Inovio's cash and equivalents of $14.1 million at December 31, 2008 are sufficient to meet its planned working capital needs through December 31, 2009. To continue its product development Inovio plans to raise additional working capital through equity or debt financing. There can be no assurance that additional sources of capital will be available at favorable terms, if at all. If Inovio is not able to secure additional funding, Inovio will be required to scale back its research and development programs, preclinical studies and clinical trials, and general and administrative activities and may not be able to continue in business. These consolidated financial statements do not include any adjustments to the specific amounts and classifications of assets and liabilities, which might be necessary should Inovio be unable to continue in business. Inovio's consolidated financial statements as of and for the year ended December 31, 2008 have been prepared on a going concern basis, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business for the foreseeable future.

Consolidation

The accompanying consolidated financial statements include the accounts of Inovio Biomedical Corporation and its domestic and foreign subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Use of estimates

The preparation of consolidated financial statements in accordance with U.S. generally accepted accounting principles requires us to make estimates and judgments that affect the reported amounts of

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. Inovio bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. On an ongoing basis, Inovio reviews its estimates to ensure that these estimates appropriately reflect changes in the business or as new information becomes available.

Cash and equivalents

Equivalents are highly liquid investments purchased with original maturities of three months or less and are stated at cost, which approximates market value. At December 31, 2008 there were no cash equivalents held in money market funds. At December 31, 2007, cash equivalents included $3.7 million in money market funds.

Accounts receivable

Trade accounts receivable are recorded at invoiced amounts and do not bear interest. Inovio performs ongoing credit evaluations of our customers' financial condition. Credit is extended to customers as deemed necessary and generally does not require collateral. Management believes that the risk of loss is significantly reduced due to the quality and financial position of our customers. No allowance for doubtful accounts was deemed necessary at December 31, 2008 and 2007.

Long-term investments

Inovio's investments consist of auction rate securities ("ARS") which are on deposit with a major financial institution and are stated at fair market value. All of Inovio's investments are classified as municipal debt securities as of December 31, 2008 and 2007, and are ARS which have contractual maturities in excess of ten years and reset to par on a monthly basis. See Note 3 for further discussion of the Company's long-term investments.

Auction Rate Securities Rights

Auction Rate Security Rights ("ARS Rights") consist of the right to sell ARS held by the Company back to the financial institution which sold them to the Company, at par, at its sole discretion, any time during the period from June 30, 2010 through July 2, 2012, and gives the financial institution the right to purchase these ARS or sell them on the Company's behalf at par anytime through July 2, 2012. See Note 3 for further discussion of the Company's ARS Rights.

Fixed assets

Property and equipment are stated at cost and depreciated using the straight-line method over the estimated useful life of the assets, generally three to five years. Leasehold improvements are amortized over the shorter of the remaining term of the related leases or the estimated economic useful lives of the improvements. Repairs and maintenance are expensed as incurred.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

Cost method investments

Investments in corporate entities with less than a 20% voting interest are accounted for under the cost method. Inovio monitors these investments for impairment and makes appropriate reductions in carrying values if it is determined that an impairment charge is required, based primarily on the financial condition and near-term prospects of these companies.

The Company's cost method investments consist of investments in two non-public companies of $25,000 and $10,250 for the year ended December 31, 2008, as compared to $25,000 and $125,000, for the year ended December 31, 2007, respectively. During the year ended December 31, 2008 the Company recorded an $114,750 impairment charge on one of its cost method investments due to certain events indicating a decline in the non-public company's fair value.

Goodwill

Goodwill represents costs which were in excess of the fair value in our acquisition of Inovio AS.

In accordance with Statement of Financial Accounting Standards ("SFAS") No. 142, *Goodwill and Other Intangible Assets*, goodwill and intangible assets with indefinite lives are not amortized but instead are measured for impairment annually, or when events indicate that impairment exists. Our accounting policy with respect to reviewing goodwill for impairment is a two step process. The first step of the impairment test compares the fair value of our reporting unit with its carrying value including allocated goodwill. If the carrying value of our reporting unit exceeds its fair value, then the second step of the impairment test is performed to measure the impairment loss, if any. We test goodwill for impairment at the entity level which is considered our reporting unit. Our estimate of fair value is determined using both the Discounted Cash Flow method of the Income Approach and the Guideline Public Company method of the Market Approach. The Discounted Cash Flow method estimates future cash flows of our business for a certain discrete period and then discounts them to their present value. The Guideline Public Company method computes value indicators ("multiples") from the operating data of the selected publicly traded guideline companies. After these multiples were evaluated, appropriate value indicators were selected and applied to the operating statistics of the reporting unit to arrive at indications of value. Specifically, we relied upon the application of Total Invested Capital based valuation multiples for each guideline company. In applying the Income and Market Approaches, premiums and discounts were determined and applied to estimate the fair values of the reporting unit. To arrive at the indicated value of equity under each approach, we then assigned a relative weighting to the resulting values from each approach to determine whether the carrying value of the reporting unit exceeds its fair value, thus requiring step 2 of the impairment test.

We conduct the impairment test annually on November 30th for each fiscal year for which goodwill is evaluated for impairment. We are also aware of the requirement to evaluate goodwill for impairment at other times should circumstances arise pursuant to the guidance provided in SFAS 142, paragraph 26. To date, we have concluded that the fair value of the reporting unit significantly exceeded the carrying value and therefore, step 2 of the impairment test has never been performed.

Intangible Assets

Intangible assets acquired as part of the Inovio AS acquisition are amortized using the straight-line method over their estimated period of contractual and cash flow benefit, which is 18 years.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

Patents are recorded at cost and amortized using the straight-line method over the expected useful lives of the patents or 17 years, whichever is less. Cost is comprised of the consideration paid for patents and related legal costs. If management determines that development of products to which patent costs relate is not reasonably certain or that costs exceed recoverable value, such costs are charged to operations.

License costs are recorded based on the fair value of consideration paid and amortized using the straight-line method over the shorter of the expected useful life of the underlying patents or the term of the related license agreement.

Intangible assets subject to amortization and long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable in accordance with SFAS No. 144 discussed below. Additional factors we consider include the operational performance of our acquired businesses, estimates of future cash flows, market conditions, and other qualitative factors. Any estimates and assumptions we use for reviewing potential impairments are consistent with our internal planning. See Notes 7 and 18 for further discussion of the Company's goodwill and intangible assets.

Income taxes

Inovio accounts for income taxes using the liability method of tax allocation. Future income taxes are recognized for the future income tax consequences attributable to differences between the carrying values of assets and liabilities and their respective income tax bases. Future income tax assets and liabilities are measured using enacted income tax rates expected to apply to taxable income in the years in which temporary differences are expected to be recovered or settled. The effect on future income tax assets and liabilities of a change in rates is included in earnings in the period that includes the enactment date. Future income tax assets are recorded in the consolidated financial statements if realization is considered more likely than not.

Revenue recognition

Revenue is recognized in accordance with SAB No. 104, *Revenue Recognition in Financial Statements,* and EITF Issue 00-21, *Revenue Arrangements with Multiple Deliverables*.

License fees are comprised of initial fees and milestone payments derived from collaborative licensing arrangements. Inovio continues to recognize non-refundable milestone payments upon the achievement of specified milestones, provided the milestone payment is substantive in nature and the achievement of the milestone was not reasonably assured at the inception of the agreement. Inovio defers payments for milestone events which are reasonably assured and recognizes them ratably over the minimum remaining period of the performance obligations. Payments for milestones which are not reasonably assured are treated as the culmination of a separate earnings process and are recognized as revenue when the milestones are achieved.

Inovio has adopted a strategy of co-developing or licensing our gene delivery technology for specific genes or specific medical indications. Accordingly, Inovio has entered into collaborative research and development agreements and has received funding for pre-clinical research and clinical trials. Payments under these agreements, which are non-refundable, are recorded as revenue as the

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

related research expenditures are incurred pursuant to the terms of the agreements and provided collectibility is reasonably assured.

Inovio receives non-refundable grants under available government programs. Inovio records government grants applicable towards current expenditures as revenue when there is reasonable assurance that the Company has complied with all conditions necessary to receive the grants, collectibility is reasonably assured, and the related expenditures have been incurred.

Research and development expenses

Since Inovio's inception, virtually all of the Company's activities have consisted of research and development efforts related to developing electroporation technologies. Research and development expenses consist of expenses incurred in performing research and development activities including salaries and benefits, facilities and other overhead expenses, clinical trials, contract services and other outside expenses. Research and development expenses are charged to operations as they are incurred. Inovio reviews and accrues clinical trials expense based on work performed, which relies on estimates of total costs incurred based on patient enrollment, completion of studies and other events.

Net loss per share

Net loss per share is calculated in accordance with SFAS No. 128, *Earnings Per Share*. Basic loss per share is computed by dividing the net loss for the year by the weighted average number of common shares outstanding during the year. Diluted loss per share is calculated in accordance with the treasury stock method and reflects the potential dilution that would occur if securities or other contracts to issue common stock were exercised or converted to common stock. Since the effect of the assumed exercise of common stock options and other convertible securities was anti-dilutive for all periods presented, basic and diluted loss per share are the same.

The following table summarizes potential common shares that were excluded from historical basic and diluted net loss per share calculation because of their anti-dilutive effect:

Common stock equivalents	As of December 31, 2008	As of December 31, 2007	As of December 31, 2006
Options to purchase common stock	4,616,714	3,465,462	2,798,900
Warrants to purchase common stock	6,890,448	8,892,000	8,663,700
Convertible preferred stock	104,409	217,720	1,177,959
Non-vested restricted common stock	138,750	101,250	
Total	11,750,321	12,676,432	12,640,559

Leases

Leases are classified as either capital or operating leases. Leases which transfer substantially all of the benefits and risks incidental to the ownership of assets are accounted for as if there was an acquisition of an asset and incurrence of an obligation at the inception of the lease. All other leases are accounted for as operating leases. Inovio's San Diego headquarters facility lease, which has escalating payments, is expensed on a straight-line basis over the term of five years. At the end of the original

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

lease term, Inovio has the option of renewing this lease for an additional five-year lease term at an annual rate equal to the fair market rental value of the property, as defined in the lease agreement. This lease represents the primary expense and commitment as indicated in Note 11 "Commitments" below. Other leases exist for the Norway facility and for office machinery, such as copiers, wherein lease expense is recorded as incurred.

Stock-based compensation

Inovio accounts for stock-based compensation in accordance with SFAS No. 123(R), *Share-Based Payment*. Inovio estimates the fair value of stock options granted using the Black-Scholes option pricing model. The Black-Scholes option pricing model was developed for use in estimating the fair value of traded options, which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility and expected option life. Inovio amortizes the fair value of the awards on a straight-line basis. All options grants are amortized over the requisite service period of the awards. Expected volatility is based on historical volatility. The expected life of options granted is based on historical expected life. The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of grant. The forfeiture rate is based on historical data and Inovio records stock-based compensation expense only for those awards that are expected to vest. The dividend yield is based on the fact that no dividends have been paid on common stock historically, and none are currently expected to be paid.

Assumptions used in the Black-Scholes model are presented below:

	Year Ended December 31,		
	2008	**2007**	**2006**
Risk-free interest rate	1.38% - 3.18%	4.07% - 4.67%	4.68% - 4.96%
Expected volatility	69% - 91%	93% - 98%	98% - 109%
Expected life in years	4	6	6
Dividend yield			

Other Accumulated Comprehensive Loss

Components of comprehensive loss are reported in the consolidated financial statements in the period in which they are recognized. The components of comprehensive loss for us include net loss, unrealized gains and losses on investments and foreign currency translation adjustments. The components of accumulated other comprehensive loss are indicated on the Consolidated Statements of Stockholder's Equity.

Pending Adoption of Recent Accounting Pronouncements

In November 2007, the EITF issued EITF Issue No. 07-1, *Accounting for Collaborative Arrangements Related to the Development and Commercialization of Intellectual Property.* Companies may enter into arrangements with other companies to jointly develop, manufacture, distribute, and market a product. Often the activities associated with these arrangements are conducted by the collaborators without the creation of a separate legal entity (that is, the arrangement is operated as a "virtual joint venture"). The arrangements generally provide that the collaborators will share, based on contractually defined calculations, the profits or losses from the associated activities. Periodically, the collaborators

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

share financial information related to product revenues generated (if any) and costs incurred that may trigger a sharing payment for the combined profits or losses. The consensus requires collaborators in such an arrangement to present the result of activities for which they act as the principal on a gross basis and report any payments received from (made to) other collaborators based on other applicable GAAP or, in the absence of other applicable GAAP, based on analogy to authoritative accounting literature or a reasonable, rational, and consistently applied accounting policy election. EITF Issue No. 07-1 is effective for collaborative arrangements in place at the beginning of the annual period beginning after December 15, 2008. The Company does not expect the adoption of EITF Issue No. 07-1 to have a material impact on its consolidated financial statements.

In December 2007, the FASB issued SFAS No. 141(R), *Business Combinations*. SFAS No. 141(R) changes the requirements for an acquirer's recognition and measurement of the assets acquired and liabilities assumed in a business combination, including the treatment of contingent consideration, pre-acquisition contingencies, transaction costs, in-process research and development and restructuring costs. In addition, under SFAS No. 141(R), changes in an acquired entity's deferred tax assets and uncertain tax positions after the measurement period will impact income tax expense. This statement is effective for the Company with respect to business combination transactions for which the acquisition date is after December 31, 2008. The Company is currently evaluating the impact that SFAS No. 141(R) will have on its consolidated financial statements, including specifically evaluating the impact upon consummation of the proposed Merger with VGX, if completed. The impact of adopting SFAS No. 141(R) on the Company's consolidated financial statements depends on the terms of any future business combination transactions.

In December 2007, the FASB issued SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements (an amendment of Accounting Research Bulletin, or ARB, No. 51).* SFAS No. 160 requires that noncontrolling (minority) interests be reported as a component of equity, that net income attributable to the parent and to the noncontrolling interest be separately identified in the income statement, that changes in a parent's ownership interest while the parent retains its controlling interest be accounted for as equity transactions, and that any retained noncontrolling equity investment upon the deconsolidation of a subsidiary be initially measured at fair value. This statement is effective for fiscal years beginning after December 31, 2008, and shall be applied prospectively. However, the presentation and disclosure requirements of SFAS No. 160 are required to be applied retrospectively for all periods presented. The retrospective presentation and disclosure requirements of this statement will be applied to any prior periods presented in financial statements for the fiscal year ending December 31, 2009, and later periods during which the Company has a consolidated subsidiary with a noncontrolling interest. As of December 31, 2008, the Company does not have any consolidated subsidiaries in which there is a noncontrolling interest.

In April 2008, the FASB issued Staff Position No. 142-3, *Determination of the Useful Life of Intangible Assets* ("FSP No. 142-3"). FSP No. 142-3 amends the factors to be considered in assumptions used to determine the useful lives of recognized intangible assets recognized under SFAS No. 142. The new guidance applies to intangible assets with contractual lives that are acquired individually or with a group of assets as well as those assets acquired in a business combination. The new guidance is effective for fiscal years beginning after December 15, 2008 and interim periods. The Company will adopt the statement on January 1, 2009 and is currently evaluating the impact FSP No. 142-3 will have on its consolidated financial statements.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

In November 2008, FASB ratified EITF Issue No. 08-7, *Accounting for Defensive Intangible Assets*. EITF 08-7 applies to defensive intangible assets, which are acquired intangible assets that the acquirer does not intend to actively use but intends to hold to prevent its competitors from obtaining access to them. As these assets are separately identifiable, EITF 08-7 requires an acquiring entity to account for defensive intangible assets as a separate unit of accounting which should be amortized to expense over the period the asset diminished in value. Defensive intangible assets must be recognized at fair value in accordance with SFAS 141R and SFAS 157. EITF 08-7 is effective for financial statements issued for fiscal years beginning after December 15, 2008. The Company will adopt EITF 08-7 on January 1, 2009 and is currently evaluating the potential impact of EITF 08-7 on its consolidated financial statements when implemented.

Adoption of Recent Accounting Pronouncements

In September 2006, the Financial Accounting Standards Board, or FASB, issued SFAS No. 157, *Fair Value Measurements*. SFAS No. 157 establishes a framework for measuring fair value in accordance with GAAP, clarifies the definition of fair value within that framework, and expands disclosures about the use of fair value measurements. It also responds to investors' requests for expanded information about the extent to which companies measure assets and liabilities at fair value, the information used to measure fair value and the effect of fair value measurements on earnings. SFAS No. 157 applies whenever other standards require (or permit) assets or liabilities to be measured at fair value, and does not expand the use of fair value in any new circumstances. SFAS No. 157 was effective for the Company on January 1, 2008. The adoption of SFAS No. 157 did not have a material impact on the Company's consolidated financial statements.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment to FASB Statement No. 115*. SFAS No. 159 allows certain financial assets and liabilities to be recognized, at the Company's election, at fair market value, with any gains or losses for the period recorded in the statement of operations. SFAS No. 159 includes available-for-sale securities in the assets eligible for this treatment. Currently, the Company records the unrealized gains or losses for the period in comprehensive income (loss) and in the equity section of the balance sheet. SFAS No. 159 was effective for the Company on January 1, 2008. The Company did not elect to adopt the fair value option under SFAS No. 159 on any assets or liabilities not previously carried at fair value, except for the Auction Rate Securities Rights ("ARS Rights") that were recorded in connection with the Company's acceptance of the offer of ARS Rights from UBS as more fully described in Note 3.

In June 2007, the EITF issued EITF Issue No. 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services to be Used in Future Research and Development Activities*. The consensus requires companies to defer and capitalize prepaid, nonrefundable research and development payments to third parties over the period that the research and development activities are performed or the services are provided, subject to an assessment of recoverability. EITF Issue No. 07-3 is effective for new contracts entered into beginning on January 1, 2008. The adoption of EITF Issue No. 07-3 did not have a material impact on the Company's consolidated financial statements.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

3. Investment Securities and Fair Value Measurements

Currently, the Company records the unrealized gains or losses on available-for-sale securities for the period in comprehensive income (loss) and in the equity section of the balance sheet. SFAS No. 159 was effective for the Company on January 1, 2008. The Company did not elect to adopt the fair value option under SFAS No. 159 on any assets or liabilities not previously carried at fair value, except for the Auction Rate Securities Rights ("ARS Rights") that were recorded in connection with the Company's acceptance of the offer of ARS Rights from its investment provider, UBS Financial Services, Inc., a subsidiary of UBS AG ("UBS"), as more fully described below.

SFAS No. 157 establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

The Company's financial assets measured at fair value on a recurring basis subject to the disclosure requirements of SFAS No. 157 at December 31, 2008 are as follows:

	Total	Fair Value Measurements at Reporting Date Using Significant Unobservable Inputs (Level 3)
Auction rate securities, long-term	$ 9,169,471	$ 9,169,471
Auction rate securities rights, long-term	4,281,494	4,281,494
Total	$ 13,450,965	$ 13,450,965

The Company has determined that no items meet the criteria for definition within the level 1 or 2 hierarchies. Level 3 assets held as of December 31, 2008 include municipal debt obligations with an auction rate reset mechanism issued by municipalities. These auction rate securities ("ARS") are AAA-rated debt instruments with long-term maturities and interest rates that are reset at short-term intervals through auctions. Due to conditions in the global credit markets, in 2008, these securities, representing a par value of $13.6 million, had insufficient demand resulting in multiple failed auctions. As a result, these effected securities are currently not liquid and the interest rates have been reset to predetermined higher rates. Due to the illiquid state of these investments, the Company has classified the balance of its ARS as long-term investments in the balance sheet as of December 31, 2008.

In December 2008, the Company, via its wholly-owned subsidiary Genetronics, Inc., or "Genetronics", which holds the ARS, accepted an offer of ARS Rights from UBS. The ARS Rights permit the Company to require UBS to purchase the Company's ARS at par value at any time during the period of June 30, 2010 through July 2, 2012. If the Company does not exercise its ARS Rights, the ARS will continue to accrue interest as determined by the auction process or the terms of the ARS if the auction fails. If the ARS Rights are not exercised before July 2, 2012 they will expire and UBS will have no further obligation to buy the Company's ARS. UBS has the discretion to purchase or sell the Company's ARS at any time without prior notice so long as the Company receives a payment at par upon any sale or disposition. UBS will only exercise its discretion to purchase or sell the Company's ARS for the purpose of restructurings, dispositions or other solutions that will provide the Company

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

3. Investment Securities and Fair Value Measurements (Continued)

with par value for its ARS. As a condition to accepting the offer of ARS Rights, the Company released UBS from all claims except claims for consequential damages relating to its marketing and sales of ARS. The Company also agreed not to serve as a class representative or receive benefits under any class action settlement or investor fund.

In conjunction with the acceptance of the ARS Rights, Genetronics also amended its existing loan agreement with UBS Bank USA, increasing the existing credit line up to $12.1 million, with the ARS pledged as collateral. Genetronics fully drew down on the credit line in December 2008 (See Note 4).

Typically the fair value of ARS approximates par value due to the frequent resets through the auction process. While the Company continues to earn interest on its ARS at the maximum contractual rates, these investments are not currently trading and therefore do not currently have a readily determinable market value. Accordingly, the estimated fair value of the ARS no longer approximates par value. The Company has used a discounted cash flow model to determine the estimated fair value of its investment in ARS and its ARS Rights as of December 31, 2008. The assumptions used in preparing the discounted cash flow model include estimates for interest rates, timing and amount of cash flows and expected holding period of the ARS and ARS Rights.

The Company elected to measure the ARS Rights under the fair value option of SFAS No. 159 to mitigate volatility in reported earnings due to their linkage to the ARS, and recognized a gain of approximately $4.3 million and recorded a corresponding long-term investment. Reflecting management's intent to exercise its ARS Rights during the period of June 30, 2010 through July 2, 2012, the Company transferred its ARS from investments available-for-sale to trading securities. As a result of this transfer and as the Company no longer intends to hold the ARS until the fair value recovers, the Company recognized an other-than-temporary impairment loss of approximately $4.4 million, representing a reversal of the related temporary valuation allowance that was previously recorded in other comprehensive loss. Management believes this loss is primarily attributable to the limited liquidity of these investments and has no reason to believe that any of the underlying issuers are presently at risk of default. The recording of the fair value of the ARS Rights and the recognition of the other-than-temporary impairment loss resulted in a net impact to the Consolidated Statement of Operations for the year ended December 31, 2008 of approximately $99,000, which was recorded as other expense. The ARS Rights will continue to be measured at fair value utilizing Level 3 inputs until the earlier of their maturity or exercise.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

3. Investment Securities and Fair Value Measurements (Continued)

The following table provides a summary of changes in fair value of the Company's Level 3 financial assets as of December 31, 2008:

	Auction Rate Securities
Balance at January 1, 2008	$
Transfers in to Level 3	14,050,000
Total unrealized losses included in other expense	(4,380,529)
Recognition of ARS Rights	4,281,494
Purchases and settlements (net)	(500,000)
Balance at December 31, 2008	$13,450,965
Total loss included in other expense in the consolidated statement of operations relating to assets held at December 31, 2008	$ (99,035)

4. Line of Credit

On August 26, 2008, the Company received notice from UBS Bank USA ("UBS") that the Company's application had been approved for a $5.0 million uncommitted demand revolving line of credit ("Line of Credit") secured by ARS held by the Company in an account with UBS Financial Services, Inc. (the "Collateral Account"), to provide additional working capital. On December 19, 2008, the Company amended its existing loan agreement with UBS Bank USA, increasing the existing credit line up to $12.1 million, with the ARS pledged as collateral. The Company fully drew down on the line of credit on December 23, 2008. Advances under the Line of Credit bear interest at LIBOR plus 1.00% (the "Spread Over LIBOR"). UBS may change the Spread Over LIBOR at its discretion when the Collateral consisting of ARS may be sold, exchanged or otherwise conveyed by the Company for gross proceeds that are, in the aggregate, not less than the par value of such securities. The loan will be treated as a "no net cost loan", as it will bear interest at a rate equal to the average rate of interest paid to the Company on the pledged ARS, and the net interest cost to the Company will be zero.

5. Major Customers and Concentration of Credit Risk

Customer	2008	% of Total Revenue	2007	% of Total Revenue	2006	% of Total Revenue
Merck	$ 631,549	30%	$3,268,884	68%	$1,535,540	44%
Wyeth	846,693	40	1,118,023	23		
Valentis					655,123	19
U.S Army grant	92,954	4	21,423		898,932	26
All other	526,436	26	399,399	9	378,583	11
Total Revenue	$2,097,632	100%	$4,807,729	100%	$3,468,178	100%

During the years ended December 31, 2008 and 2007, we recognized revenue from our collaboration and licensing agreements with Merck and Wyeth, which were executed in May 2004 and November 2006, respectively. As of December 31, 2008, $397,000 or 59%, and $221,000 or 33%, of our total accounts receivable balance of $671,000, was attributable to Merck and Wyeth, respectively. As of December 31, 2007, $240,000 or 21%, and $889,000 or 78%, of our total accounts receivable balance of $1.1 million, was attributable to Merck and Wyeth, respectively.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

5. Major Customers and Concentration of Credit Risk (Continued)

There is minimal credit risk with these customers based upon collection history, their size and financial condition. Accordingly, we do not consider it necessary to record a reserve for uncollectible accounts receivable.

6. Fixed Assets

Fixed assets at December 31, 2008 and 2007 consist of the following:

	Cost	Accumulated depreciation and amortization	Net book value
As of December 31, 2008			
Machinery, equipment and office furniture	$1,397,829	$(1,205,536)	$192,293
Leasehold improvements	341,133	(179,619)	161,514
	$1,738,962	$(1,385,155)	$353,807
As of December 31, 2007			
Machinery, equipment and office furniture	$2,026,992	$(1,836,966)	$190,026
Leasehold improvements	734,317	(522,616)	211,701
	$2,761,309	$(2,359,582)	$401,727

Depreciation expense for the years ending December 31, 2008, 2007 and 2006 was $195,000, $186,000 and $207,000, respectively. In accordance with SFAS No. 144, the company determined that the carrying value of these long-lived assets was not impaired for the periods presented.

7. Goodwill and Intangible Assets

In accordance with SFAS No. 142, *Goodwill and Other Intangible Assets*, the Company's goodwill is not amortized, but is subject to an annual impairment test. The following sets forth the intangible assets by major asset class:

		December 31, 2008			December 31, 2007		
	Useful Life (Yrs)	Gross	Accumulated Amortization	Net Book Value	Gross	Accumulated Amortization	Net Book Value
Non-Amortizing:							
Goodwill(a)		$ 3,900,713	$	$ 3,900,713	$ 3,900,713	$	$ 3,900,713
Amortizing:							
Patents	8 - 17	5,685,961	(3,255,231)	2,430,730	5,224,109	(2,775,713)	2,448,396
Licenses	8 - 17	1,198,781	(947,721)	251,060	1,198,781	(854,497)	344,284
Other(b)	18	4,050,000	(881,250)	3,168,750	4,050,000	(656,250)	3,393,750
Total Intangible assets		10,934,742	(5,084,202)	5,850,540	10,472,890	(4,286,460)	6,186,430
Total goodwill and intangible assets		14,835,455	(5,084,202)	9,751,253	$ 14,373,603	$ (4,286,460)	$ 10,087,143

(a)

Goodwill was recorded from the Inovio AS acquisition in January 2005. In 2007 we recorded a reduction in Goodwill of $390,000 related to the realization of foreign net operating loss carry forwards.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

7. Goodwill and Intangible Assets (Continued)

(b)

Other intangible assets represent the fair value of acquired contracts and intellectual property from the acquisition of Inovio AS. At the time of the acquisition, we determined the remaining useful life for the acquired contractual relationships to be approximately 18 years, reflecting the period over which the contractual relationships would contribute to our cash flows, consistent with the guidance in SFAS 142, paragraph 11. We evaluated the useful life of the acquired contractual relationships based upon a review of the legal life of the underlying patents and discussions with the management of Inovio AS regarding estimates of each patent's useful economic life as it related to the acquired contracts. Based on these factors, we determined that our relevant market sales and cash flows would likely decline after 18 years, when the key patents related to the acquired contracts expire. We expect that the acquired contractual relationships will continue to provide positive cash flows through at least 18 years, as determined at the time of acquisition.

Aggregate amortization expense on intangible assets was $798,000, $832,000 and $768,000 for the years ended December 31, 2008, 2007 and 2006, respectively. Amortization expense related to intangible assets at December 31, 2008 for each of the next five fiscal years and beyond is expected to be incurred as follows:

2009	$ 703,543
2010	652,824
2011	603,148
2012	554,801
2013	504,164
Thereafter	2,832,060
	$5,850,540

In accordance with SFAS No. 142, the Company has completed its annual impairment tests and fair value analysis for goodwill and other non-amortizing intangible assets, respectively, held throughout the year. The Company conducts the impairment test annually on November 30th for each fiscal year for which goodwill is evaluated for impairment. There were no impairments or impairment indicators present and no loss was recorded during the year ended December 31, 2008.

8. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses at December 31, 2008 and 2007 consist of the following:

	As of December 31, 2008	As of December 31, 2007
Trade accounts payable	$ 377,332	$ 394,786
Accrued compensation	372,015	559,685
Other accrued expenses	617,953	852,834
	$ 1,367,300	$ 1,807,305

9. Deferred Revenue

We defer revenue recognition of cash receipts from licensing and other agreements and recognize them ratably over the minimum remaining period of our performance obligations. The combined

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

9. Deferred Revenue (Continued)

current and long-term deferred revenue balance of $4.8 million consists primarily of an unrecognized balance of $3.9 million arising from the $4.5 million payment received from Wyeth in November 2006 for the 15 year collaborative and licensing agreement.

10. Stockholders' Equity

Preferred Stock

			Outstanding as of December 31,	
	Authorized	Issued	2008	2007
Series A Preferred Stock, par $0.001	1,000	817		
Series B Preferred Stock, par $0.001	1,000	750		
Series C Preferred Stock, par $0.001	1,091	1,091	71	71
Series D Preferred Stock, par $0.001	1,966,292	1,966,292		113,311

The following is a summary of changes in the number of outstanding shares of our preferred stock for the years ended December 31, 2006, 2007 and 2008:

	Series A	Series B	Series C	Series D
Shares Outstanding as of January 1, 2006	52	100	337	1,561,935
Preferred Shares converted	(52)	(100)	(235)	(533,968)
Shares Outstanding as of December 31, 2006			102	1,027,967
Preferred Shares converted			(31)	(914,656)
Shares Outstanding as of December 31, 2007			71	113,311
Preferred Shares converted				(113,311)
Shares Outstanding as of December 31, 2008			71	

The shares of the Company's outstanding Series C Preferred Stock have the following pertinent rights and privileges, as set forth in the Company's Amended and Restated Certificate of Incorporation and its Certificates of Designations, Rights and Preferences related to the various series of preferred stock.

Dividend Preferences

The holders of all series of the Company's preferred stock are entitled to receive dividends on a pari passu basis with the holders of common stock, when, if and as declared by the Company's Board of Directors.

In addition, the holders of the Series C Preferred Stock received a mandatory dividend rate of 6% per annum per outstanding share of Series C Preferred Stock, payable quarterly, based on the $10,000 Liquidation Preference of such share through the period ending on May 20, 2007. These dividends were paid in cash or common stock equal to the equivalent cash amount divided by the 20 day preceding average closing price. The Company could only elect to pay the dividends in shares of common stock if the average closing price of the shares of common stock for the 20 days immediately preceding the dividend payment date was equal to or greater than the conversion price of either of the relevant series of Preferred Stock. All dividends were paid to outstanding Series C Preferred Stockholders on each quarter-end payment date. No dividends were paid to holders of our Series C

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

Preferred Stock during the year ended December 31, 2008. We paid cash dividends to holders of our Series C Preferred Stock of $23,000 during the year ended December 31, 2007.

Rights on Liquidation

In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company (a "liquidation event"), before any distribution of assets of the Company shall be made to or set apart for the holders of common stock, the holders of Series C Preferred Stock, pari passu, are entitled to receive payment of such assets of the Company in an amount equal to $10,000 per share of such series of preferred stock, plus any accumulated and unpaid dividends thereon (whether or not earned or declared).

If the assets of the Company available for distribution to stockholders exceed the aggregate amount of the liquidation preferences payable with respect to all shares of each series of preferred stock then outstanding, then, after the payment of such preferences is made or irrevocably set aside, the holders of the Company's common stock are entitled to receive a pro rata portion of such assets based on the aggregate number of shares of common stock held by each such holder. The holders of the Company's outstanding preferred stock shall participate in such a distribution on a pro-rata basis, computed based on the number of shares of common stock which would be held by such preferred holders if immediately prior to the liquidation event all of the outstanding shares of the preferred stock had been converted into shares of common stock at the then current conversion value applicable to each series.

A Change of Control of the Company (as defined in the Certificates of Designations, Rights and Preferences) is not a liquidation event triggering the preferences described above, and is instead addressed by separate terms in the Series C Certificates of Designations, Rights, and Preferences.

Although the liquidation preferences are in excess of the par value of $0.001 per share of the Company's preferred stock, these preferences are equal to or less than the stated value of such shares based on their original purchase price.

Voting Rights

The holders of all series of the Company's preferred stock outstanding have full voting rights and powers equal to the voting rights and powers of holders of the Company's common stock and are entitled to notice of any stockholders' meeting in accordance with the Company's Bylaws. Holders of the Company's preferred stock are entitled to vote on any matter upon which holders of the Company's common stock have the right to vote, including, without limitation, the right to vote for the election of directors together with the holders of common stock as one class.

Actions Requiring the Consent of Holders of Convertible Preferred Stock

As long as a certain number of shares of each series of the Company's preferred stock issued on the respective "Date of Original Issue" for such series are outstanding, the consent of at least a majority of the shares of that series of preferred stock outstanding are necessary to approve:

(a) Any amendment, alteration or repeal of (i) any of the provisions of the relevant series' Certificate of Designation, including any increase in the number of authorized shares of such series

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

or (ii) the Company's Certificate of Incorporation or Bylaws in a manner that would adversely affect the rights of the holders of the relevant series of preferred stock;

(b) the authorization, creation, offer, sale or increase in authorized shares by the Company of any stock of any class, or any security convertible into stock of any class, or the authorization or creation of any new series of preferred stock ranking in terms of liquidation preference, redemption rights or dividend rights, pari passu with or senior to, the relevant series of preferred stock in any manner;

(c) the declaration or payment of any dividend or other distribution (whether in cash, stock or other property) with respect to the Company's capital stock or that of any subsidiary, other than a dividend or other distribution pursuant to the terms of the relevant series of preferred stock or other series of preferred stock noted in the relevant Certificate of Designation; and

(d) except for the holders of the Series D Preferred Stock, the redemption, purchase or other acquisition, directly or indirectly, of any shares of the Company's capital stock or any of its subsidiaries or any option, warrant or other right to purchase or acquire any such shares, or any other security, other than certain accepted redemptions of preferred stock, certain outstanding warrants, the repurchase of shares at cost from employees of the Company upon termination of employment in accordance with written agreements pursuant to which the shares were issued, or other specified repurchase or redemption rights pursuant to written agreements outstanding at the time of original issuance of the preferred stock in question.

These specific voting rights are applicable for the Series C Preferred Stock as long as at least 35% of the number of shares of Series C Preferred Stock issued on the Date of Original Issue remain outstanding, and the same threshold applies to the Series D Preferred Stock. As of December 31, 2008, there were no voting rights remaining.

Participation Rights

Holders of the Series C Preferred Stock have the right to participate with respect to the Company's issuance of any equity or equity-linked securities or debt convertible into equity or in which there is an equity component ("Additional Securities") on the same terms and conditions as offered by the Company to the other purchasers of such Additional Securities. However securities issued or issuable upon any of the following are not deemed "Additional Securities": (A) the conversion of outstanding preferred stock or exercise of related warrants, or the issuance of shares of common stock as payment of dividends to holders of preferred stock, (B) the exercise of any warrants or options outstanding prior to the authorization or issuance of the series of preferred stock in question (C) the issuance (at issuance or exercise prices at or above fair market value) of common stock, stock awards or options under, or the exercise of any options granted pursuant to, any Board-approved employee stock option or similar plan for the issuance of options or capital stock of the Company, (D) the issuance of shares of common stock pursuant to a stock split, combination or subdivision of the outstanding shares of common stock, and (E) for evaluation of the rights of the Series C Preferred Stock only, in connection with a bona fide joint venture or development agreement or strategic partnership, the primary purpose of which is not to raise equity capital.

Each time the Company proposes to offer any Additional Securities, it is obligated to provide each holder of shares of the Series C Preferred Stock notice of such intention including the terms of such

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

intended offering (including size and pricing) and the anticipated closing date of the sale. These preferred stockholders then have a specified period in which to respond to the Company to elect to purchase or obtain, at the price and on the terms specified in the Company's notice, up to that number of such Additional Securities which equals such holder's Pro Rata Amount. The "Pro Rata Amount" for any given holder of shares of the Series C Preferred Stock equals that portion of the Additional Securities offered by the Company which equals the proportion that the number of shares of common stock that such preferred stockholder owns or has the right to acquire to the total number of shares of common stock then outstanding (assuming in each case the full conversion and exercise of all convertible and exercisable securities then outstanding).

The holders of the Series C Preferred Stock have the right to pay the consideration for the Additional Securities purchasable upon such participation with shares of such series of Preferred Stock, which will be valued for such purpose at the applicable series' Liquidation Preference plus any accrued and unpaid dividends for such purpose. However, when shares of such preferred stock are used as participation consideration, then such holder's Pro Rata Amount is increased (but not decreased) to the extent necessary to equal that number of Additional Securities as are convertible into or exchangeable for such number of shares of Common Stock as is obtained by dividing (a) the Liquidation Preference attributable to such holder's shares of the applicable series of Preferred Stock plus any accrued and unpaid dividends on such Preferred Stock by (b) the Conversion Value then in effect for such shares, and in such event the Company shall be obligated to sell such number of Additional Securities to each such holder, even if the aggregate Pro Rata Amount for all such holders exceeds the aggregate amount of Additional Securities that the Company had initially proposed to offer. To the extent that not all holders of a particular series of preferred stock elect to participate up to their full Pro Rata Amounts, the participating holders of that series of preferred stock have the right to increase their participation accordingly.

The participation rights of the holders of the Series C Preferred Stock may not be assigned or transferred, other than assignment to any wholly-owned subsidiary or parent of, or to any corporation or entity that is, within the meaning of the Securities Act, controlling, controlled by or under common control with, any such holder. As a result of transfers, the holders of the Series C Preferred Stock outstanding as of December 31, 2008 no longer had such participation rights.

During our October 2006, December 2005 and January 2005 common stock offerings, we informed holders of our outstanding Series A, B, and C Cumulative Convertible Preferred Stock with participation rights, of their ability to participate in the respective offering based upon the pricing of the transaction and the applicable liquidation preference for the series of preferred share participating. These participating stockholders obtained incremental shares of common stock as a result of exercising their participation rights, thereby converting their outstanding shares of Cumulative Convertible Preferred Stock at a lower offering price compared to their current conversion price. The right to participate was available only for a limited period time in relation to the specific transaction and the exercise of the existing participation right did not reflect or create a lasting change in the holders' conversion privileges. Some of the participating stockholders had previously converted a portion of their shares of the Company's preferred stock pursuant to their optional conversion rights, and most of the participating stockholders wholly converted their remaining shares of the Company's preferred stock through exercise of their participation rights in the noted offerings.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

Conversion Rights

The Series C Preferred Stock each provide the holder of such shares an optional conversion right and provide a mandatory conversion upon certain triggering events.

Right to Convert The holder of any share or shares of Series C Preferred Stock has the right at any time, at such holder's option, to convert all or any lesser portion of such holder's shares of the Preferred Stock into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing (i) the aggregate Liquidation Preference applicable to the particular series of preferred shares, plus accrued and unpaid dividends thereon by (ii) the applicable Conversion Value (as defined in the relevant series' Certificate of Designations, Rights and Preferences) then in effect for such series of preferred shares. The Company is not obligated to issue any fractional shares or scrip representing fractional shares upon such conversion and instead shall pay the holder an amount in cash equal to such fraction multiplied by the current market price per share of the Company's common stock.

Mandatory Conversion The Company has the option upon thirty (30) days prior written notice, to convert all of the outstanding shares of the Series C Preferred Stock into such number of fully paid and non-assessable shares of common stock as is determined by dividing (i) the aggregate Liquidation Preference of the shares of the relevant series of preferred stock to be converted plus accrued and unpaid dividends thereon by (ii) the applicable Conversion Value (as defined in the relevant series' Certificate of Designations, Rights and Preferences) then in effect, if at any time after twelve months following the Original Issue Date of each such series of preferred stock all of the following triggering events occur:

(i) The registration statement covering all of the shares of common stock into which the particular series of preferred stock is convertible is effective (or all of the shares of common stock into which the preferred stock is convertible may be sold without restriction pursuant to Rule 144 under the Securities Act of 1933, as amended);

(ii) the Daily Market Price (as defined in the applicable Certificates of Designations, Rights and Preferences) of the common stock crosses a specified pricing threshold for twenty of the thirty consecutive trading days prior to the date the Company provides notice of conversion to the holders; and

(iii) the average daily trading volume (subject to adjustment for stock dividends, subdivisions and combinations) of the common stock for at least twenty of the thirty consecutive trading days prior to the date the Company provides notice of conversion to the holders exceeds 25,000 shares.

As of December 31, 2008, our outstanding shares of the Series C Preferred Stock were convertible into 104,409 shares of our common stock at a conversion price of $6.80 per share, and the applicable Daily Market Price of the common stock for triggering mandatory conversion equaled $18.00 per share. As of December 31, 2008 there were no shares of Series D Preferred Stock outstanding.

Imputed and Declared Dividends on Preferred Stock

The holders of our Series A and B Preferred Stock were entitled to receive an annual dividend at the rate of 6%, payable quarterly, through September 30, 2006. These dividends were payable in cash unless the closing price of our common shares for the 20 trading days immediately preceding the

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

dividend payment date was equal to or greater than the conversion price of such shares, in which event we may have elected to pay the dividends to the holders in common stock. As part of this dividend to holders of Series A and B Preferred Stock, we issued a total of 2,871 common shares valued at $8,000, and paid $15,000 in cash during 2006. There were no shares of Series A or B Preferred Stock outstanding on December 31, 2008, 2007 or 2006, respectively.

The holders of our Series C Preferred Stock are entitled to receive an annual dividend at the rate of 6%, payable quarterly, through May 20, 2007. These dividends are payable in cash unless the closing price of our common shares for the 20 trading days immediately preceding the dividend payment date is equal to or greater than the conversion price of such shares, in which event we may elect to pay the dividends to the holders in common stock. As part of this dividend, we paid cash of $23,000 during fiscal 2007 to holders of our Series C Preferred Stock. We paid cash $117,000 during fiscal 2006 to holders of our Series C Preferred Stock and accrued $15,000 for certain holders of our Series C Preferred Stock who participated in our October 2006 equity financing, during fiscal 2006. No dividends were paid to holders of our Series C Preferred Stock during the year ended December 31, 2008.

During 2006, we recorded an imputed dividend charge of $1.9 million during the three months ended December 31, 2006, related to the investors who converted $1.2 million of their Series C Preferred Stock investment into 473,744 shares of our common stock as part of our October 2006 private placement. This imputed dividend charge was calculated using guidance contained in Emerging Issues Task Force ("EITF") Issue No. 00-27, *Application of Issue No. 98-5 to Certain Convertible Instruments*. As part of this private placement, these investors received 304,450 additional shares of our common stock, as compared to the number of shares of our common stock into which their existing Series C Preferred Stock could have been converted under the original terms of the Series C Preferred Stock. Under EITF Issue No. 00-27, this incremental number of shares of our common stock was multiplied by the price of our common stock on the commitment date of the original Series C Preferred Stock issuance, or $6.08 per share, to calculate the $1.9 million imputed dividend charge associated with this beneficial conversion.

Common Stock

In August 2007, we entered into an agreement with an outside consulting advisor pursuant to which we issued 230,000 registered shares of common stock and registered warrants to purchase 150,000 shares of common stock, as payment of a non-refundable retainer in connection with the engagement of its services. The warrants issued have an exercise price of $3.00 per share, and are exercisable through August 6, 2012. As of December 31, 2008, none of these warrants have been exercised.

In May 2007, we completed a registered equity financing, whereby we sold 4,595,094 shares of our common stock resulting in gross aggregate cash proceeds of $16.2 million.

In March 2007, we entered into an agreement in which we agreed to issue a total of 90,000 restricted shares of our common stock in equal quarterly installments in exchange for consulting services. As of December 31, 2008, we had issued all 90,000 restricted common shares.

In January 2007, we exchanged for 2,201,644 restricted shares of our common stock and warrants to purchase up to 770,573 restricted shares of our common stock for 2,201,644 ordinary shares of our Singapore subsidiary Inovio Asia Pte. Ltd. (IAPL), pursuant to the terms of the Securities Purchase

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

and Exchange Agreement under which the ordinary shares were originally issued by IAPL in October 2006 for $5.3 million. The warrants issued have an exercise price of $2.87 per share and are exercisable through October 13, 2011. As of December 31, 2008, none of these warrants have been exercised.

In March 2007, we terminated our exclusive royalty-free license to IAPL allowing our subsidiary to use certain of our intellectual property, which had been issued in October 2006 prior to the ordinary share financing described above, in exchange for 6,584,365 ordinary shares of IAPL. Upon termination we retained the IAPL ordinary shares received in the license transaction.

In October 2006, we completed a registered offering with foreign investors, whereby we sold 4,074,067 shares of our common stock and issued warrants to purchase 1,425,919 shares of our common stock which resulted in gross aggregate cash proceeds of $9.9 million. As part of this offering, we informed holders of our then outstanding Series C Preferred Stock who held participation rights, of their ability to participate in the respective offering based upon the pricing of the transaction and the applicable liquidation preference for their series of preferred shares with such rights. Some of these participating stockholders had previously converted a portion of their shares of preferred stock pursuant to their optional conversion rights, and most of these participating stockholders wholly converted their remaining shares of the Company's preferred stock through exercise of their participation rights in this offering. By electing to participate in this offering, these participating preferred stockholders converted 115.12 shares of previously issued Series C Preferred Stock and $14,571 of accrued dividends into 479,722 restricted shares of our common stock and warrants to purchase 167,902 restricted shares of our common stock. These participating stockholders received 304,450 additional restricted shares of our common stock as compared to the number of shares of our common stock into which their existing Series C Preferred Stock could have been converted under the original terms of the Series C Preferred Stock. As a result, we recorded an imputed dividend charge of $1.9 million related to the participating stockholders who converted $1.2 million of their previous Series C Preferred Stock investment. We calculated this imputed dividend charge pursuant to the guidance contained in Emerging Issues Task Force ("EITF") Issue No. 00-27, *Application of Issue No. 98-5 to Certain Convertible Instruments*, where the incremental number of shares of our common stock which was received by our participating Series C Preferred Stockholders was multiplied by the price of our common stock on the commitment date of the original Series C Preferred Stock issuance, or $6.08 per share, to calculate the imputed dividend charge associated with this beneficial conversion. All warrants issued in connection with our 2006 registered offering have an exercise price of $2.87 per share and are exercisable through October 13, 2011. As of December 31, 2008, none of these warrants have been exercised.

In July and October 2006, we issued 25,000 and 24,261 shares of our common stock, respectively, to an outside consulting company in payment of a non-refundable retainer in connection with the engagement of its services.

In June 2006, we issued 86,956 common shares to a licensing company in exchange for various patents and other assets and a $50,000 shareholder note receivable.

Warrants

In addition to warrants granted as discussed above, the Company has issued the following additional warrants.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

Participants in our December 2005 private placement were issued five-year warrants to purchase an aggregate of 3,462,451 shares of our common stock with an exercise price of $2.93 per share, exercisable through December 30, 2010. As of December 31, 2008, none of these warrants have been exercised.

In connection with the leasing of our new corporate headquarters, the Company issued a warrant to purchase 50,000 shares of our common stock at $5.00 per share to the landlord of this leased facility in December 2004. This warrant is immediately exercisable and expires on December 6, 2009, five years from the date of issuance. This warrant was valued on the date of issuance using the Black-Scholes pricing model. The fair value of this warrant, $121,000, will be recognized ratably over the five-year term of the lease as rent expense. As of December 31, 2008, none of these warrants have been exercised.

Participants in our Series C Preferred Stock offering in May 2004 were issued five-year warrants to purchase 561,084 shares of our common stock at an exercise price of $8.80 per share, exercisable through May 10, 2009. The placement agents for the Series C Preferred Stock offering were also issued five-year warrants to purchase 152,519 shares of our common stock at an exercise price of $6.80 per share, exercisable through May 10, 2009. As of December 31, 2008, none of these warrants have been exercised.

On September 15, 2000, we entered into an exclusive license agreement with the University of South Florida Research Foundation, Inc. (USF), whereby USF granted us an exclusive, worldwide license to USF's rights in patents and patent applications generally related to needle electrodes ("License Agreement"). Pursuant to the License Agreement, we granted USF and its designees warrants to acquire 150,000 common shares for $9.00 per share until September 14, 2010. Of the total warrants granted, 75,000 vested at the date of grant and the remainder will vest upon the achievement of certain milestones. The 75,000 non-forfeitable vested warrants were valued at $554,000 using the Black- Scholes pricing model and were recorded as other assets with a credit to additional paid-in capital. The remaining 75,000 warrants are forfeitable and will be valued at the fair value on the date of vesting using the Black- Scholes pricing model. As of December 31, 2008, no warrants issued in connection with this licensing agreement had been exercised.

In July 2008, warrants to purchase 2,001,552 shares of our common stock expired, issued in connection with our Series A and B Preferred Stock offerings.

Stock options

The Company has one active stock and cash-based incentive plan, our 2007 Omnibus Incentive Plan (the "Incentive Plan"), pursuant to which we have granted stock options and restricted stock awards to executive officers, directors and employees. The plan was adopted on March 31, 2007, approved by the stockholders on May 4, 2007, and approved by the stockholders as amended on May 2, 2008. The Incentive Plan reserves 1,750,000 shares of our common stock for issuance as or upon exercise of incentive awards granted and to be granted at future dates. At December 31, 2008, we had 42,938 shares of common stock available for future grant and had outstanding 138,750 shares of unvested restricted common stock, 101,250 shares of vested restricted stock, and options to purchase 1,465,812 shares of common stock. The awards granted and available for future grant under the Incentive Plan generally have a term of ten years and generally vest over a period of three years. The Incentive Plan terminates by its terms on March 31, 2017.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

The Incentive Plan supersedes all of our previous stock option plans, which include our 1997 Stock Option Plan, under which we had options to purchase 14,750 shares of common stock outstanding and our Amended 2000 Stock Option Plan, under which we had options to purchase 3,136,152 shares of common stock outstanding at December 31, 2008. The terms and conditions of the options outstanding under these plans remain unchanged.

Total compensation cost under SFAS No. 123(R) for our stock plans for the years ended December 31, 2008, 2007 and 2006 was $1.0 million, $1.6 million, and $1.3 million of which $286,000, $354,000 and $423,000 was included in research and development expenses and $746,000, $1.2 million and $921,000 was included in general and administrative expenses, respectively.

At December 31, 2008 and 2007, there was $752,000 and $1.3 million of total unrecognized compensation cost, respectively, related to unvested stock options, which is expected to be recognized over a weighted-average period of one year.

The Company accounts for options granted to non-employees in accordance with Emerging Issues Task Force ("EITF") No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*, and Statement of Financial Accounting Standard ("SFAS") No. 123(R), *Share-Based Payment*. The fair value of these options at the measurement dates was estimated using the Black-Scholes pricing model.

Total stock-based compensation for options granted to non-employees for the years ended December 31, 2008, 2007 and 2006, was $58,000, $119,000, and $203,000, respectively. As of December 31, 2008 and 2007, 1,076,031 and 455,937 options remained outstanding, respectively.

The following table summarizes total stock options outstanding at December 31, 2008:

	Options outstanding			Options exercisable	
Exercise price	Options outstanding	Weighted-average remaining contractual life (in years)	Weighted average exercise price	Options exercisable	Weighted-average exercise price
$0.00 - $2.00	1,914,717	8.1	$ 1.03	868,668	$ 1.23
$2.01 - $4.00	2,231,998	6.9	$ 2.97	1,662,143	$ 2.92
$4.01 - $6.00	386,499	5.3	$ 4.95	386,499	$ 4.95
$6.01 - $8.00	68,750	4.4	$ 6.22	68,750	$ 6.22
$8.01 - $22.00	14,750	0.5	$ 15.59	14,750	$ 15.59
	4,614,714	7.2	$ 2.42	3,000,810	$ 2.83

At December 31, 2008, the aggregate intrinsic value of options outstanding was $9,000, the aggregate intrinsic value of options exercisable was $2,000, and the weighted average remaining contractual term of options exercisable was 6.3 years.

At December 31, 2007, the aggregate intrinsic value of options outstanding was $150; the aggregate intrinsic value of options exercisable was $150 and the weighted average remaining contractual term of options exercisable was 6.1 years.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. Stockholders' Equity (Continued)

Stock option activity under our stock option plans was as follows:

	Number of shares	Weighted-average exercise price
Balance, December 31, 2005	2,383,888	$ 3.55
Granted	872,750	2.56
Exercised	(148,628)	1.69
Cancelled	(309,110)	4.64
Balance, December 31, 2006	2,798,900	3.22
Granted	963,125	3.20
Exercised	(94,563)	2.31
Cancelled	(202,000)	4.57
Balance, December 31, 2007	3,465,462	3.15
Granted	1,474,500	0.86
Exercised	(1,250)	0.87
Cancelled	(321,998)	3.14
Balance, December 31, 2008	4,616,714	$ 2.42

The weighted average exercise price was $3.56 for the 233,185 options which expired during the year ended December 31, 2008, $6.36 for the 118,250 options which expired during the year ended December 31, 2007 and $5.53 for the 167,687 options which expired during the year ended December 31, 2006.

The weighted average grant date fair value per share was $0.46 for options granted during the year ended December 31, 2008, $2.51 for options granted during the year ended December 31, 2007 and $2.18 for options granted during the year ended December 31, 2006.

The aggregate intrinsic value of options exercised was $138 during the year ended December 31, 2008; $95,000 during the year ended December 31, 2007 and $158,000 during the year ended December 31, 2006.

A summary of the Company's nonvested restricted shares as of December 31, 2008 and activity during the year is as follows:

	Number of shares	Weighted-average grant-date fair value
Nonvested at January 1, 2008	101,250	$ 3.69
Granted	75,000	0.87
Vested	(37,500)	2.28
Nonvested at December 31, 2008	138,750	$ 2.55

As of December 31, 2008, there was $179,000 of total unrecognized compensation cost related to nonvested stock-based compensation arrangements. That cost is expected to be recognized over a weighted-average period of 1.1 years.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

11. Commitments

On January 28, 2005, the Company moved into its headquarters of 22,867 square feet in San Diego, California. This lease runs through February 28, 2010. The annual rent for this leased property was $433,901 in the first two years and $452,767 in year three and four of the original lease term. The annual rent for the fifth and final year of the original lease term is $480,207. At the end of the original lease term, we have the option of renewing this lease for an additional five-year lease term at an annual rate equal to the fair market rental value of the property, as defined in the lease agreement.

In January 2008, we entered into a new facility lease in Oslo, Norway to support our research and development activities conducted through our subsidiary Inovio AS. The term of the lease is for three years and may be terminated with three months notice. Monthly rent is approximately $3,000 per month.

Rent expense was $422,000, $490,000, and $489,000 for the years ended December 31, 2008, 2007 and 2006, respectively. This amount is net of sublease income of $103,000, $38,000 and $38,000, respectively. Future minimum lease payments under non-cancelable operating leases as of December 31, 2008 are as follows:

2009	$539,825
2010	138,152
2011	5,640
Thereafter	
Total	$683,617

In the normal course of business, the Company is a party to a variety of agreements pursuant to which we may be obligated to indemnify the other party. It is not possible to predict the maximum potential amount of future payments under these types of agreements due to the conditional nature of our obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by us under these types of agreements have not had a material effect on our business, consolidated results of operations or financial condition.

12. Litigation

From time to time the Company becomes involved in various lawsuits, claims and proceedings relating to the conduct of our business. The Company is currently involved in the following litigation:

Pyrce v. Inovio Biomedical Corporation, Genetronics Biomedical Corporation, Genetronics, Inc., Inovio AS, DOES 1 to 50, Superior Court of California, County of San Diego, Case No. 37-2007-000758899-CU-BC-CTL (Hon. Ronald L. Styn). The plaintiff, a former consultant to Inovio AS, commenced this civil lawsuit against the Company and various subsidiaries in state court on September 28, 2007. Plaintiff's original counsel withdrew from the case, plaintiff was proceeding *pro se* until obtaining a new attorney who appeared in September of 2008 and filed a nine-count amended complaint. The Court dismissed three of Plaintiff's counts and Plaintiff thereafter filed a nine-count second amended complaint by which Plaintiff seeks approximately $780,000 in damages. The plaintiff has not yet served Inovio AS. The Company disputes the allegations and intends to vigorously defend against them.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

13. Income Taxes

In accordance with SFAS 109, *Accounting for Income Taxes*, a deferred tax asset or liability is determined based on the difference between the financial statement and tax basis of assets and liabilities as measured by the enacted tax rates which will be in effect when these differences reverse. We provide a valuation allowance against net deferred tax assets unless, based upon the available evidence, it is more likely than not that the deferred tax asset will be realized.

The components of the provision (benefit) for income taxes are shown below:

	As of December 31, 2008	As of December 31, 2007	As of December 31, 2006
Current:			
Federal	$	$	$
State			
Foreign			
	$	$	$
Deferred:			
Federal	$	$	$
State			
Foreign	(63,000)	327,000	(63,000)
	(63,000)	$ 327,000	$ (63,000)

The reconciliation of income tax attributable to operations computed at the statutory tax rates to income tax expense (recovery), using a 35% statutory tax rate, is:

	Year ended December 31, 2008	Year ended December 31, 2007	Year ended December 31, 2006
Income taxes at statutory rates	$ (4,538,000)	$ (3,786,000)	$ (4,368,000)
State income tax, net of federal benefit	(668,000)	(742,000)	(659,000)
Change in valuation allowance	5,328,000	(6,445,000)	4,636,000
IRC Section 382 limitation		12,749,000	
Fair value warrant	50,000	(1,192,000)	
Other	(235,000)	(257,000)	328,000
	$ (63,000)	$ 327,000	$ (63,000)

The income tax expense (recovery) has been recorded as a reduction to general and administrative expenses, as its effect is immaterial.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

13. Income Taxes (Continued)

Significant components of our deferred tax assets and liabilities as of December 31, 2008 and 2007 are shown below:

	As of December 31, 2008	As of December 31, 2007
Deferred tax assets:		
Capitalized research expense	$ 3,566,000	$ 929,000
Net operating loss carry forwards	24,891,000	23,019,000
Research and development and other tax credits	2,152,000	1,356,000
Other	4,049,000	4,028,000
	34,658,000	29,332,000
Valuation allowance	(34,658,000)	(29,332,000)
Total deferred tax assets		
Deferred tax liabilities:		
Acquired intangibles	(887,000)	(950,250)
Net deferred tax liabilities	(887,000)	$ (950,250)

The net deferred tax liability of $887,000 as of December 31, 2008, resulted from the acquisition of Inovio AS and reflects the net effect of temporary differences between the carrying amount of intangible assets for financial statement reporting purposes and the amount used for income tax purposes. The liability will be amortized over the life of the underlying intangible, which is 18 years and will be accounted for as an income tax recovery.

As of December 31, 2008, we had federal and California tax net operating loss carry forwards of approximately $59.4 million and $58.0 million, respectively. The federal loss carry forwards will begin to expire in 2019 unless previously utilized. The California loss carry forwards will begin to expire in 2013. The difference between the federal and California tax loss carry forwards is primarily attributable to the capitalization of research and development expenses for California income tax purposes and the 50% to 60% limitation of California loss carry forwards. In addition, we have federal and state research tax credit carry forwards of $1.2 million and $1.5 million, respectively. The federal tax credit carry forwards will begin to expire in 2022. The California research tax credit carry forwards do not expire. At December 31, 2008, the Company had foreign tax loss carry forwards related to the acquisition of Inovio AS of approximately $2.1 million. The foreign net operating loss carry forwards begin to expire in 2011.

Utilization of the NOL and tax credit carryforwards will be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986, and similar state provisions due to ownership change limitations that have occurred previously or that could occur in the future. These ownership changes will limit the amount of NOL and tax credit carryforwards and other deferred tax assets that can be utilized to offset future taxable income and tax, respectively. In general, an ownership change, as defined by Section 382, results from transactions increasing ownership of certain stockholders or public groups in the stock of the corporation by more than 50 percentage points over a three-year period. An analysis was performed of ownership activity through December 31, 2008 which indicated that multiple ownership changes have occurred in previous years which created annual

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

13. Income Taxes (Continued)

limitations on the Company's ability to utilize NOL and tax credit carryovers. Such limitations will result in approximately $12.7 million of tax benefits related to NOL and tax credit carryforwards that will expire unused. Accordingly, the related NOL and R&D credit carryforwards have been removed from deferred tax assets accompanied by a corresponding reduction of the valuation allowance. Due to the existence of the valuation allowance, limitations created by future ownership changes, if any, related to our operations in the U.S. will not impact our effective tax rate.

In July 2006, the FASB issued FIN 48, which clarifies the accounting for uncertainty in income taxes recognized in a company's financial statements in accordance with Statement of Financial Accounting Standards No. 109, *Accounting for Income Taxes.* FIN 48 prescribes a recognition threshold and measurement process for recording in the financial statements uncertain tax positions taken or expected to be taken in a tax return. Additionally, FIN 48 provides guidance on the de-recognition, classification, interest and penalties, accounting in interim periods, and disclosure requirements for uncertain tax positions. We adopted the provisions of FIN 48 beginning January 1, 2007. The adoption of FIN 48 did not impact the Company's financial condition, results of operations or cash flows. As of December 31, 2008, the Company has not recorded any uncertain tax benefits.

We file income tax returns in the U.S. and various foreign and state jurisdictions. Due to our losses incurred, we are essentially subject to income tax examination by tax authorities from our inception to date. Our policy is to recognize interest expense and penalties related to income tax matters as tax expense. At December 31, 2008, we do not have any significant accruals for interest related to unrecognized tax benefits or tax penalties.

14. 401(k) Plan

In 1995, our U.S. subsidiary adopted a 401(k) Profit Sharing Plan (the "Plan") covering substantially all of its employees. The defined contribution plan allows the employees to contribute a percentage of their compensation each year. We currently match 50% of our employees' contributions, up to 6% of their annual compensation. Our contributions are recorded as expense in the accompanying consolidated statements of operations and totaled $58,000, $55,000 and $45,000 for the years ended December 31, 2008, 2007 and 2006, respectively.

15. Segment Information

The Company operates in one business segment in the United States and Europe. Revenues are attributable to the geographical area based on the location of the customer. During the year ending December 31, 2008 revenues in Europe and the United States totaled $285,000 and $1.8 million, respectively. During the year ending December 31, 2007 revenues in Europe and the United States totaled $267,000 and $4.5 million, respectively, and during the year ending December 31, 2006 revenues in Europe and the United States totaled $262,000 and $3.2 million, respectively. Long-lived assets within the United States consist primarily of patents and other intellectual property. Long-lived assets outside the United States consist primarily of goodwill and intangible assets. As of December 31, 2008, long-lived assets in Europe and the United States totaled $7.1 million and $2.7 million, respectively. As of December 31, 2007, long-lived assets in Europe and the United States totaled $7.7 million and $2.8 million, respectively, and as of December 31, 2006, long-lived assets in Europe and the United States totaled $7.9 million and $2.9 million, respectively.

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

16. Related Party Transactions

In March 2004, we announced the selection of Quintiles Transnational Corp., a global pharmaceutical services organization, as the clinical research organization ("CRO") for our clinical trials in the U.S. and Europe. In addition, the investment division of this CRO, Qfinance, Inc., was an investor in our Series A, B and C Preferred Stock. During the year ended December 31, 2006, Qfinance, Inc. converted 50, 100 and 109 shares respectively, of our Series A, B and C Preferred Stock into a total of 725,788 of our common shares. Total clinical trial expenses paid to Quintiles Transnational Corp. for the years ended December 31, 2008, 2007, and 2006, were $0, $23,000 and $371,000, respectively.

17. Supplemental Disclosures of Cash Flow Information

	Year ended December 31, 2008	Year ended December 31, 2007	Year ended December 31, 2006
Supplemental schedule of financing activities:			
Conversion of minority interest into common stock	$	$ 5,349,995	$
Interest paid	$ 31,170	$	$
Imputed dividends on preferred stock	$	$	$ 1,851,056
Common stock issued in connection with declared dividends on preferred stock	$	$	$ 22,264
Cashless exercise of warrants	$	$ 38	$
Conversions of preferred stock to common stock	$ 113	$ 961	$ 1,764
Issuance of common stock for patents and other assets	$	$	$ 128,922
Issuance of common stock in exchange for shareholder note receivable	$	$	$ 86,030
Leasehold improvements financed by landlord	$ 35,211	$ 92,486	$ 172,054
Investment received in exchange for licensing agreement	$	$	$ 125,000

18. Inovio AS

On December 31, 2007, the Company's wholly-owned Norwegian subsidiary Inovio AS transferred certain patent and other intellectual property rights ("IPR") to our wholly owned U.S. subsidiary Genetronics Inc. The value assigned to these rights was $1.9 million, which was determined by and was the responsibility of management of Inovio, who considered in part preliminary work performed by a valuation specialist in Norway. All Norwegian tax gains associated with this transfer of the patents and IPR was offset by prior year tax loss carry forwards. Subsequent to year-end, the Company changed the name of Inovio AS to Inovio Tec AS. Simultaneously, the Company incorporated a new Norwegian wholly-owned subsidiary under the name Inovio AS, for the purpose of organizing a research effort directed towards the development of specific cancer vaccine candidates. The Company expects funding for this program to be about $5.0 million over the next several years. In January 2008, all employees, employee agreements, lease agreements and fixed assets were transferred from Inovio Tec AS to Inovio AS.

19. Quarterly Financial Information (Unaudited)

The following unaudited quarterly financial information reflects all normal recurring adjustments, which are, in the opinion of management, necessary for a fair statement of the results of the interim

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

19. Quarterly Financial Information (Unaudited) (Continued)

periods. The four quarters for per share figures may not add for the year because of the different number of shares outstanding during the year. The results of operations for any period are not necessarily indicative of the results to be expected for any future period. Summarized unaudited quarterly data for the years ended December 31, 2008 and 2007, are as follows:

	Quarter Ended December 31, 2008	Quarter Ended September 30, 2008	Quarter Ended June 30, 2008	Quarter Ended March 31, 2008
Consolidated Statement of Operations:				
Revenue:				
License fee and milestone payments	$ 179,823	$ 214,825	$ 203,924	$ 192,829
Revenue under collaborative research and development arrangements	(81,240)	239,912	459,110	460,185
Grants and miscellaneous revenue	228,264			
Total revenue	326,847	454,737	663,034	653,014
Operating Expenses:				
Research and development	1,199,455	1,274,387	1,679,264	1,597,388
General and administrative	2,588,989	1,928,928	3,086,180	2,401,505
Total operating expenses	3,788,444	3,203,315	4,765,444	3,998,893
Loss from operations	(3,461,597)	(2,748,578)	(4,102,410)	(3,345,879)
Interest income, net	56,708	97,008	191,371	298,749
Other income, net	(170,844)	307,162	(112,733)	25,421
Net loss attributable to common stockholders	$ (3,575,733)	$ (2,344,408)	(4,023,772)	(3,021,709)
Amounts per common share basic and diluted:				
Net loss attributable to common stockholders	$ (0.08)	$ (0.05)	$ (0.09)	$ (0.07)
Weighted average number of common shares basic and diluted	44,011,800	43,929,654	43,874,739	43,837,739

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INOVIO BIOMEDICAL CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

19. Quarterly Financial Information (Unaudited) (Continued)

	Quarter Ended December 31, 2007	Quarter Ended September 30, 2007	Quarter Ended June 30, 2007	Quarter Ended March 31, 2007
Consolidated Statement of Operations:				
Revenue:				
License fee and milestone payments	$ 2,212,854	$ 136,870	$ 209,265	$ 234,489
Revenue under collaborative research and development arrangements	1,054,031	265,970	286,312	247,990
Grants and miscellaneous revenue	54,854	83,671		21,423
Total revenue	3,321,739	486,511	495,577	503,902
Operating Expenses:				
Research and development	1,866,322	2,335,378	2,907,836	2,516,411
General and administrative	3,266,767	3,177,723	2,344,551	2,291,161
Total operating expenses	5,133,089	5,513,101	5,252,387	4,807,572
Loss from operations	(1,811,350)	(5,026,590)	(4,756,810)	(4,303,670)
Interest income, net	357,514	405,023	286,792	223,068
Other income, net	427,906	1,927,064	727,305	339,305
Net loss	(1,025,930)	(2,694,503)	(3,742,713)	(3,741,297)
Imputed and declared dividends on preferred stock			(8,244)	(15,091)
Net loss attributable to common stockholders	(1,025,930)	$ (2,694,503)	$ (3,750,957)	$ (3,756,388)
Amounts per common share basic and diluted:				
Net loss attributable to common stockholders	$ (0.02)	$ (0.06)	$ (0.09)	$ (0.10)
Weighted average number of common shares basic and diluted	43,812,905	43,699,683	40,674,947	37,694,634