ADVANCED MAGNETICS INC
Form 424B5
May 24, 2007

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Filed Pursuant to Rule 424(b)(5)
Registration No.: 333-143014

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities Offered	Maximum Amount to be Registered	Maximum Offering Price per Share	Maximum Aggregate Offering Price	Amount of Registration Fee(1)
Common Stock ($.01 par value per share)	2,875,000	$65.14	$187,277,500	$5,750

(1) Calculated in accordance with Rule 457(r) of the Securities Act of 1933, as amended, and reflects the potential issuance of shares of common stock pursuant to an over-allotment option. The fee payable in connection with the offering of common stock pursuant to this prospectus supplement has been paid in accordance with Rule 456(b).

PROSPECTUS SUPPLEMENT
(To Prospectus dated May 16, 2007)

2,500,000 Shares

COMMON STOCK

Advanced Magnetics, Inc. is offering 2,500,000 shares of its common stock.

Our common stock is listed on the NASDAQ Global Market under the symbol "AMAG." On May 22, 2007, the last reported sale price of our common stock on the NASDAQ Global Market was $65.14 per share.

Investing in our common stock involves risks. See "RISK FACTORS" beginning on page S-10 of this prospectus supplement.

PRICE $65.14 A SHARE

	Price to Public	***Underwriting Discounts and Commissions***	***Proceeds to Advanced Magnetics, Inc.***
Per Share	*$65.140*	*$3.257*	*$61.883*
Total	*$162,850,000*	*$8,142,500*	*$154,707,500*

We have granted the underwriters the right to purchase up to an additional 375,000 shares to cover over-allotments.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved these securities, or determined if this prospectus supplement or the accompanying prospectus are truthful or complete. Any representation to the contrary is a criminal offense.

Morgan Stanley & Co. Incorporated, on behalf of the underwriters, expects to deliver the shares to purchasers on or about May 29, 2007.

MORGAN STANLEY *BEAR, STEARNS & CO. INC.*

DEUTSCHE BANK SECURITIES *JEFFERIES & COMPANY*

THINKEQUITY PARTNERS LLC

May 22, 2007

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of the common stock we are offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein and in the accompanying prospectus. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined together with all documents incorporated by reference. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date for example, a document incorporated by reference in the accompanying prospectus the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein or in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained in this prospectus supplement or incorporated by reference herein and contained, or incorporated by reference, in the accompanying prospectus. We have not authorized, and the underwriters have not authorized, anyone to provide you with information that is different. The information contained in this prospectus supplement or incorporated by reference herein and contained, or incorporated by reference, in the accompanying prospectus is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the section entitled "Where You Can Find More Information" on page S-31 of this prospectus supplement.

We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless otherwise stated, all references in this prospectus to "we," "us," "our," "Advanced Magnetics," the "Company" and similar designations refer to Advanced Magnetics, Inc. Trademarks or service marks appearing in this prospectus supplement are the property of their respective holders.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us and this offering. This information is not complete and does not contain all the information you should consider before investing in our common stock. You should carefully read this entire prospectus supplement and the accompanying prospectus, including the "Risk Factors" section of this prospectus supplement and the financial statements and the other information incorporated by reference in the prospectus, before making an investment decision.

Our Business

Advanced Magnetics, Inc. was incorporated in Delaware in November 1981 and is a biopharmaceutical company that utilizes its proprietary nanoparticle technology for the development and commercialization of therapeutic iron compounds to treat anemia and novel imaging agents to aid in the diagnosis of cancer and cardiovascular disease. We have two approved products, Feridex I.V.® and GastroMARK®, and two product candidates, ferumoxytol and Combidex®.

Ferumoxytol, our key product candidate, is being developed for use as an intravenous, or IV, iron replacement therapeutic for the treatment of iron deficiency anemia in chronic kidney disease, or CKD. We have completed enrollment in all four of our planned pivotal Phase III clinical studies for ferumoxytol as an IV iron replacement therapeutic. Two of the completed studies were identical efficacy and safety studies each of which enrolled 304 non-dialysis dependent chronic kidney disease, or CKD, patients comparing two doses of 510 mg ferumoxytol to daily oral iron. The third completed study was a safety study in 750 non-dialysis dependent CKD and dialysis-dependent CKD patients comparing a single dose of 510 mg ferumoxytol to placebo. The final study, in which enrollment was completed in March 2007, is a 230 patient multi-center efficacy and safety study in hemodialysis-dependent CKD patients comparing two doses of 510 mg ferumoxytol to daily oral iron. Based on our current estimates of the timing of our efforts to prepare and finalize the submission of the New Drug Application, or NDA, for ferumoxytol, we currently plan to submit the NDA for ferumoxytol as an IV iron replacement therapeutic to the U.S. Food and Drug Administration, or the FDA, during the fourth calendar quarter of 2007.

In November 2006, we presented positive results from the first of our completed studies in non-dialysis dependent CKD patients at the American Society of Nephrology's Renal Week 2006 Annual Meeting. The study demonstrated a statistically significant achievement of the primary and secondary efficacy endpoints of the study. For the primary endpoint, which is change in hemoglobin from baseline on the 35th day after the first administration of ferumoxytol, patients receiving ferumoxytol had a significantly greater mean increase in hemoglobin compared to patients receiving oral iron. For the secondary endpoints, a significantly higher proportion of patients receiving ferumoxytol achieved an increase in hemoglobin of greater than or equal to 1 gram/dl on the 35th day after they received the drug and a significantly greater increase in serum ferritin on the 21st day after receiving the drug compared to patients receiving oral iron in the study. Additionally, all primary and secondary efficacy endpoints were statistically significant in both patients on erythropoeisis stimulating proteins, or ESPs, and those not on ESPs. In this study, adverse events occurred in 52.0% of oral iron patients compared to 35.5% of ferumoxytol patients. Similarly, drug-related adverse events occurred in 24.0% of oral iron patients compared to 10.6% of ferumoxytol patients. There were no drug-related serious adverse events, or SAEs, in either group.

In April 2007, we presented positive results from two additional Phase III clinical trials of ferumoxytol as an IV iron replacement therapeutic at the National Kidney Foundation's Spring Clinical Meeting. The first of these trials was a safety and efficacy study in non-dialysis dependent CKD patients in which 303 patients were randomized to receive either two 510 mg doses of ferumoxytol within one week or 200 mg of oral iron daily for three weeks. This Phase III study demonstrated a statistically significant achievement of all primary and secondary endpoints. For the primary endpoint, which is change in hemoglobin from baseline on the 35th day after the first administration of ferumoxytol, patients receiving ferumoxytol had a significantly greater mean increase in hemoglobin compared to patients receiving oral iron. For the

secondary endpoints, a significantly higher proportion of patients receiving ferumoxytol achieved an increase in hemoglobin of greater than or equal to 1 gram/dl on the 35th day after they received ferumoxytol and a significantly greater increase in serum ferritin on the 21st day after receiving ferumoxytol compared to patients receiving oral iron in the study. Additionally, all primary and secondary efficacy endpoints were statistically significant in both patients on ESPs and those not on ESPs. In this study, adverse events occurred in 55.5% of ferumoxytol patients compared to 59.5% of oral iron patients. Drug-related adverse events occurred in 21.4% of ferumoxytol patients compared to 16.2% of oral iron patients. SAEs occurred in 7.7% of ferumoxytol patients compared to 13.5% of oral iron patients. There were no drug-related SAEs in ferumoxytol treated patients. There was one drug-related SAE in one oral iron treated patient (1.4% of oral iron patients); a case of severe gastritis which led to discontinuation of the study drug. These results are consistent with the results previously presented at the American Society of Nephrology's Renal Week Annual Meeting in November 2006 discussed above, which had an identical protocol.

The second of the Phase III studies for which results were presented at the National Kidney Foundation's Spring Clinical Meeting in April 2007 was a double-blind, placebo-controlled, crossover Phase III safety study which enrolled a total of 750 patients, including both dialysis-dependent CKD patients and non-dialysis dependent CKD patients who received either one 510 mg dose of ferumoxytol or IV placebo (saline) at day zero and received the other treatment on the seventh day of the study. Complete safety data was available for 360 patients randomized to the ferumoxytol to placebo sequence and for 362 patients randomized to the placebo to ferumoxytol sequence. For the ferumoxytol to placebo sequence, 40.3% of patients had dialysis-dependent CKD, and for the placebo to ferumoxytol sequence, 43.6% of patients had dialysis-dependent CKD. The primary safety analysis was the descriptive comparison of adverse events experienced during ferumoxytol and placebo administration. Drug-related adverse events occurred in 5.2% of patients after ferumoxytol treatment and in 4.2% of patients after placebo treatment. Drug-related SAEs, as determined by the investigator, occurred in one patient, or 0.1% of patients after ferumoxytol treatment and in one patient, or 0.1% of patients after placebo treatment. The single SAE attributed to the drug after ferumoxytol administration occurred in an 85 year-old male, with non-dialysis dependent CKD, hypertension, coronary artery disease, cerebrovascular disease and a history of multiple drug allergies to ciprofloxacin, levofloxacin, and percocet. The patient experienced an anaphylactoid reaction with severe hypotension a few minutes after ferumoxytol administration, was treated with subcutaneous epinephrine and recovered without sequelae. The single SAE attributed to the drug after placebo administration occurred in an 81 year-old female, with non-dialysis dependent CKD, hypertension, atrial fibrillation, oxygen-dependent chronic obstructive pulmonary disease, hypothryroidism and gout. The patient developed a petechial rash one day after placebo administration, was withdrawn from the study and did not receive ferumoxytol.

The combined data from three of the four Phase III studies for which results are now available represent a total of approximately 1,588 administrations of 510 mg of ferumoxytol in 1,151 patients. One of 1,151 patients, or 0.09%, experienced a drug related SAE after ferumoxytol treatment compared to one of 149 patients, or 0.67%, treated with oral iron and one of 716 patients, or 0.14%, treated with IV saline (placebo).

The final study, in which enrollment was completed in March 2007, is a 230 patient multi-center efficacy and safety study in hemodialysis-dependent CKD patients comparing two doses of 510 mg ferumoxytol to daily oral iron. The primary endpoint of the study is the mean change in hemoglobin from baseline on the 35th day following initial treatment in the ferumoxytol group compared to that in the oral iron treatment group. The secondary endpoints for the study include the proportion of subjects experiencing a greater than or equal to one gram per deciliter increase in hemoglobin on the 35th day following initial treatment and the mean change in serum ferritin from baseline on the 21st day following initial treatment, in each case in the ferumoxytol group compared to the oral iron group.

Combidex, our other product under development, is an investigational functional molecular imaging agent consisting of iron oxide nanoparticles for use in conjunction with magnetic resonance imaging, or MRI, to aid in the differentiation of cancerous from normal lymph nodes. In March 2005, we received an approvable letter from the FDA with respect to *Combidex*, subject to certain conditions. We are working with our European partner, Guerbet, S.A, or Guerbet, on the potential presentation to the FDA of additional data from a Phase III study sponsored by Guerbet in Europe in patients with pelvic cancers, including prostate, bladder, cervical and uterine cancer, which, together with other additional information we intend to provide to the FDA, we hope will address the concerns raised in the March 2005 approvable letter. In December 2006, Guerbet announced that it submitted a marketing authorization application to the European Agency for the Evaluation of Medicinal Products, the European equivalent of an NDA, seeking approval for *Combidex* under the tradename Sinerem as an aid in the differentiation of lymph nodes in patients with pelvic cancers, including prostate, bladder and uterine cancer. We plan to announce our strategy for responding to the March 2005 approvable letter during the second half of calendar year 2007. However, until our evaluation of the additional data from Guerbet is complete and we meet with the FDA to discuss our intended response to the March 2005 approvable letter, we cannot predict with certainty the timing or likelihood of our ability to satisfy the conditions specified by the FDA for approval of *Combidex*. In February 2007, we announced that we had re-acquired all U.S. marketing rights to *Combidex* in connection with the settlement of a lawsuit with Cytogen Corporation.

Feridex I.V., our liver contrast agent, is currently approved and marketed in Europe, the United States and other countries. *GastroMARK*, our oral contrast agent used for delineating the bowel in MRI, is also approved and marketed in Europe, the United States and other countries.

From 1991 to June 26, 2006, our common stock was traded on the American Stock Exchange under the trading symbol "AVM." As of June 27, 2006, our common stock began trading on the NASDAQ Global Market under the trading symbol "AMAG."

Our Core Technology

Our core technology is based on the characteristic properties of extremely small, coated superparamagnetic iron oxide nanoparticles. Our core competencies include the ability to design such nanoparticles for particular applications, to manufacture the nanoparticles in controlled sizes and to cover the nanoparticles with different coatings depending upon the application for which they will be used. Our technology and expertise enable us to synthesize, sterilize and stabilize these iron oxide nanoparticles in a manner necessary for use in pharmaceutical products such as iron replacement therapeutics and MRI contrast agents.

Our iron oxide nanoparticles are composed of bioavailable iron that is easily absorbed by the body and incorporated into the body's iron stores. As a result, products using our core technology are well suited for use in IV iron replacement therapy. Additionally, the superparamagnetic characteristic of our products results in nanoparticles that become strongly magnetic when placed in a magnetic field, but lose their magnetism once the field is removed. Therefore, use of our nanoparticles results in magnetic resonance images that increase the information available to the reviewing physicians. Our rights to our technology are derived from and/or protected by license agreements, patents, patent applications and trade secret protections.

Products

The following table summarizes applications and potential applications of our products and product candidates, the names of our principal marketing partners, the current U.S. and foreign status for each of our product candidates and the primary markets for our approved products.

Product	Applications	Marketing Partners	U.S. Status	Foreign Status
ferumoxytol	Intravenous iron replacement therapy	None	Enrollment in all planned Phase III clinical trials completed. Results reported in three of four studies to date. NDA filing planned for calendar Q4 2007	None
	MRI contrast agent	None	Exploratory Phase II clinical trials completed	None
Combidex®	Differentiation of cancerous from normal lymph nodes	Guerbet (various countries in the European Union, South America, the Middle East, Southeast Asia, Africa, Mexico, and eastern Europe) and TaeJoon (South Korea)	Received approvable letter from FDA in March 2005	Dossier submitted in November 2006 to the European Agency for Evaluation of Medical Products by our European partner
Feridex I.V.®	Diagnosis of liver lesions	Berlex Laboratories, Inc. (United States) and Guerbet (various countries in the European Union, South America, the Middle East, Southeast Asia, South Africa and eastern Europe)	Approved and marketed	Approved and marketed in most European Union countries
GastroMARK®	Delineating the bowel in abdominal imaging	Mallinckrodt, Inc. (United States) and Guerbet (various countries in the European Union, South America, the Middle East, Southeast Asia, Africa and eastern Europe)	Approved and marketed	Approved and marketed in several European Union countries

Ferumoxytol as an Iron Replacement Therapeutic

Overview

IV iron replacement therapy plays a major role, along with erythropoietin, a hormone produced in the kidneys that stimulates red blood cell production, in treating certain types of chronic anemia in patients suffering from CKD, or kidney failure, as well as in many patients receiving chemotherapy. According to the United States Renal Data System, or USRDS, there were 335,963 CKD patients on dialysis in the United States on December 31, 2004. Over 90% of these CKD dialysis patients receive intravenous iron as part of managing their anemia. Additionally, according to the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative, or KDOQI, there are approximately 8 million people in the United States suffering from moderate (Stage 3) or severe (Stage 4) CKD who are not yet on dialysis. Among these patients, more than 1.5 million have anemia according to extrapolation of data analyzed from a large health management organization. Data presented at the National Kidney Foundation Meeting in 2006 showed that 38% of anemic patients with Stage 3 or 4 CKD had evidence of absolute iron deficiency and would therefore benefit from receiving intravenous iron.

Chronic Kidney Disease and Anemia

Diseased kidneys do not produce enough erythropoietin to stimulate sufficient production of red blood cells to meet the body's needs. Consequently, people with CKD often develop anemia. To increase red blood cell production, anemic CKD patients are given recombinant erythropoietin therapy, which in turn increases their need for iron. Long-term use of erythropoietin therapy causes the body to progressively deplete its iron stores to meet this increased need for iron. As a result, the majority of these CKD patients eventually develop iron deficiency anemia and require iron replacement therapy. In addition, when iron stores become too low, erythropoietin therapy becomes less effective in treating anemia. Iron deficiency is often worse in hemodialysis patients due to blood loss in the dialysis procedure, multiple hospitalizations and interventional procedures or gastrointestinal bleeding.

Ferumoxytol and the Treatment of Chronic Anemia

The National Kidney Foundation's KDOQI guidelines recommend starting CKD patients who need iron on oral iron supplements as a first-line treatment for iron deficiency anemia. For most patients receiving erythropoietin, oral iron supplements do not adequately replenish the body's iron stores. Oral iron supplements are not absorbed well by the gastrointestinal tract and can often have unpleasant side effects, such as constipation, diarrhea and cramping that cause people to stop taking the iron supplements. IV iron replacement therapeutics allow greater amounts of iron to be provided to patients whose iron stores have been severely depleted while avoiding the side effects associated with oral iron supplements. However, there are certain adverse reactions and side effects associated with IV iron replacement therapeutics that may make such products less safe than oral iron.

If approved by the FDA, we believe ferumoxytol would be an effective iron replacement therapy for CKD patients, whether or not on dialysis. Clinical studies to date show that ferumoxytol has greater flexibility in both the time required for administration and the amount of iron that can be given to a patient in a single administration as compared to IV iron replacement therapeutics currently on the market in the United States.

We have completed enrollment in all four of our planned pivotal Phase III clinical studies for ferumoxytol as an IV iron replacement therapeutic. Two of the completed studies were identical efficacy and safety studies, each of which enrolled 304 non-dialysis dependent CKD patients comparing two doses of 510 mg ferumoxytol to daily oral iron. The third completed study was a safety study in 750 non-dialysis dependent CKD and dialysis-dependent CKD patients comparing a single dose of 510 mg ferumoxytol to placebo. We presented Phase III data from the second of the two identical efficacy and safety studies in non-dialysis dependent CKD patients as well as data from the 750 patient safety study in both dialysis-

dependent and non-dialysis dependent CKD patients at the National Kidney Foundation's Spring Clinical Meeting in April 2007. The efficacy and safety study results demonstrated a statistically significant achievement of all primary and secondary endpoints. Additionally, the findings from the 750 patient safety study supported that ferumoxytol was well tolerated in subjects with CKD. The final study, in which enrollment was completed in March 2007, is a 230 patient multi-center efficacy and safety study in hemodialysis-dependent CKD patients comparing two doses of 510 mg ferumoxytol to daily oral iron. Based on our current estimates of the timing of our efforts to prepare and finalize the submission of the NDA for ferumoxytol, we currently plan to submit the NDA for ferumoxytol as an IV iron replacement therapeutic in patients with CKD to the FDA during the fourth calendar quarter of 2007.

We do not currently have a marketing partner for ferumoxytol as an IV iron replacement therapeutic. In order to achieve commercial success for ferumoxytol as an IV iron replacement therapeutic, we will have to either develop our own internal marketing and sales function, including a direct sales force, enter into a collaborative arrangement with a third party or parties to market and sell ferumoxytol, or otherwise contract for these services with a third party. If we market and sell ferumoxytol ourselves, we may not be able to successfully recruit and retain the qualified marketing and sales personnel that would be necessary to market and sell ferumoxytol.

The Role of *Combidex* in Contrast-Enhanced MRI

MRI is a non-invasive method used to visualize internal structures, abnormalities or anatomical changes in order to diagnose disease and injury. Imaging agents play a significant role in improving the quality of diagnostic images by increasing the contrast between different internal structures or types of tissues in various disease states. *Combidex* is an investigational functional molecular imaging agent that localizes to and causes contrast enhancement of normal lymph nodes. Clinical trials have demonstrated that MRI exams of lymph nodes using *Combidex* as part of staging cancer provide increased accuracy in the evaluation of lymph nodes as cancerous or normal, which we believe will allow for a safe, cost-effective way to improve patient diagnosis and staging. There are no MRI agents designed specifically for imaging lymph nodes currently on the market.

Many different types of cancers can spread to the lymph nodes, particularly prostate and breast cancer. According to the American Cancer Society 2006 Cancer Facts and Figures, nearly 1 million new cases of cancer that could spread to the lymph nodes will have been diagnosed during 2006. Lymph node imaging plays an important role in staging patients and determining appropriate patient management. There are currently no available non-invasive methods for distinguishing between lymph nodes enlarged by the infiltration of cancerous cells as opposed to inflammation. The modalities currently used for imaging lymph nodes include computed tomography, or CT, MRI without contrast, ultrasound and positron emission tomography, or PET, alone or in combination with CT. Except for PET/CT, these imaging modalities cannot distinguish between nodes enlarged due to inflammation and enlarged cancerous nodes, nor can they identify cancerous nodes that are not enlarged. Therefore, the current practice is to assume that enlarged nodes (typically greater than ten millimeters in size) are cancerous and to perform a biopsy to establish their true status. PET relies on the increased metabolism often found in cancerous tissue, but generally cannot detect lesions less than 8-10 mm and often falsely suggests cancer in other conditions with increased metabolic activity, for example, infection. We have demonstrated in clinical studies that *Combidex* only accumulates in normal lymph node tissue and can therefore facilitate differentiation between cancerous nodes and normal nodes. We believe that *Combidex* will enable doctors using MRI to improve diagnostic confidence in differentiating between normal and cancerous lymph nodes, irrespective of node size.

We have granted exclusive rights to market and sell *Combidex* to Guerbet in various countries in the European Union, or EU, South America, the Middle East, Southeast Asia, Africa, Mexico and eastern Europe under the tradename Sinerem and TaeJoon in South Korea. In February 2007, we announced

that we had re-acquired all U.S. marketing rights to *Combidex* in connection with the settlement of a lawsuit with Cytogen Corporation.

The Role of Ferumoxytol in Contrast-Enhanced MRI

As a blood pool agent with a long blood half-life as compared to currently approved MRI contrast agents, ferumoxytol may be useful as a contrast agent in a wide range of applications in MRI. We have completed exploratory Phase II clinical studies for use of ferumoxytol in contrast-enhanced magnetic resonance angiography, or MRA, a type of MRI. However, given our limited resources and the priority we are placing on completion of the development program for ferumoxytol as an iron replacement therapeutic, it is unlikely that we will advance the ferumoxytol MRI program in the near future.

We do not currently have a marketing partner for ferumoxytol in MRA or MRI applications.

Feridex I.V.

Several types of cancer can spread to the liver. The ability to identify metastatic tumors in the liver plays a key role in staging patients and determining appropriate patient management. Diagnosis of metastases in the liver at an early stage can be difficult because small tumors are frequently not accompanied by detectable physical symptoms. We believe that contrast-enhanced MRI exams using *Feridex I.V.* enable the imaging of liver lesions that may not be visible with other modalities used for liver imaging.

Feridex I.V. was approved by the FDA in August 1996. Berlex Laboratories, Inc., or Berlex, our exclusive U.S. marketing partner for *Feridex I.V.,* has been marketing *Feridex I.V.* in the United States since October 1996. *Feridex I.V.* was approved in August 1994 by the European Union's Committee for Proprietary Medicinal Products and most of the member states of the EU have since issued local approvals to market the product. Guerbet has been marketing the product on an exclusive basis in Europe since late 1994, and subsequently acquired the rights to market the product in several other countries under the tradename Endorem .

GastroMARK

Images of organs and tissues in the abdomen using MRI without contrast agents can be difficult to read because the abdominal organs and tissues cannot be easily distinguished from the loops of the bowel. *GastroMARK*, our oral contrast agent for delineating of the bowel, flows through and darkens the bowel when ingested. By more clearly identifying the intestinal loops, *GastroMARK* enhances the ability to distinguish the bowel from adjacent tissues and organs in the upper gastrointestinal tract.

GastroMARK was approved by the FDA in 1996. Our marketing partner, Mallinckrodt, Inc. (a division of Tyco-Healthcare), or Mallinckrodt, has been marketing *GastroMARK* in the United States since April 1997. We initially licensed the marketing rights to *GastroMARK* on an exclusive basis to Guerbet in western Europe and Brazil. Guerbet has been marketing the product in several EU countries since 1993 under the tradename Lumirem , and subsequently acquired the rights to market the product in several other countries in the Middle East, Southeast Asia, eastern Europe, South America and Africa.

Our principal executive offices are located at 125 CambridgePark Drive, 6th Floor, Cambridge, Massachusetts 02140, and our telephone number is (617) 498-3300.

The Offering

Common Stock offered by us	2,500,000 shares
Common stock to be outstanding after the offering	16,744,942 shares
Use of Proceeds	We intend to use the net proceeds from this offering for general corporate purposes, including working capital, research and development expenditures, sales and marketing expenditures, including those related to building our commercial operations infrastructure, developing new indications for ferumoxytol, pursuing foreign approvals for ferumoxytol and capital expenditures. See "Use of Proceeds."
Risk Factors	You should read the "Risk Factors" section of this prospectus supplement for a discussion of factors to consider before deciding to purchase shares of our common stock.
Nasdaq Global Market symbol	AMAG

The number of shares outstanding after this offering is based on 14,244,942 shares of our common stock outstanding as of May 21, 2007, and excludes:

- 1,171,598 shares of our common stock issuable upon exercise of outstanding stock options at a weighted average exercise price of $29.19 and 31,000 shares of common stock issuable upon the vesting of restricted stock units granted pursuant to our stock option plans; and
- an aggregate of 486,858 additional shares of common stock reserved for future issuance under our Amended and Restated 2000 Stock Plan, our 2003 Employee Stock Purchase Plan and our 2006 Employee Stock Purchase Plan.

RISK FACTORS

Before you participate in this offering, you should be aware that there are various risks in making an investment in our common stock, including the ones listed below.

The following risk factors should be considered carefully together with the information provided elsewhere in this prospectus supplement, the accompanying prospectus, our Annual Report on Form 10-K for the fiscal year ended September 30, 2006 and any other documents we incorporate by reference in evaluating this offering.

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 may also impair our business operations. If any of the following risks actually occur, our business, financial conditions and results of operations could be materially and adversely affected.

Risks Related to our Business

Our ability to successfully complete the development of, and obtain regulatory approval to market and sell, ferumoxytol as an IV iron replacement therapeutic is uncertain because the results of our clinical trials may not demonstrate that ferumoxytol is safe and efficacious.

Before obtaining regulatory approvals for the commercial sale of ferumoxytol, we must demonstrate through extensive pre-clinical testing and human clinical trials that ferumoxytol is safe and efficacious. We have completed enrollment in all four of our planned pivotal Phase III studies of ferumoxytol as an IV iron replacement therapeutic, and we have publicly announced the results of three of these four studies. However, ferumoxytol may be found to be unsafe, to have harmful side effects on humans, to be ineffective or may otherwise fail to meet regulatory standards or receive necessary regulatory approvals. If ferumoxytol fails in any of the Phase III clinical trials or our Phase III clinical trials do not demonstrate sufficient safety and efficacy of ferumoxytol as an IV iron replacement therapeutic, we will be unable to obtain regulatory approval for, and market, ferumoxytol as an IV iron replacement therapeutic, thereby dramatically reducing our potential future revenues and severely adversely impacting the future prospects for our business. For example, there are certain serious adverse reactions and side effects that are often associated with iron replacement therapeutics such as ferumoxytol. For IV iron replacement products that are currently being marketed, these serious adverse reactions have been seen more frequently when large doses of iron are delivered rapidly. In our clinical trials we administered a relatively large dose of ferumoxytol more rapidly than the currently marketed products. If our studies show a sufficient number of cases of such reactions or side effects in patients which are deemed related to ferumoxytol, then ferumoxytol may be considered unsafe by the FDA and/or the physicians who select which iron replacement product patients will receive. In addition, our clinical trials are conducted in patients in the most advanced stages of disease. During the course of the trials, these patients can and do die or suffer adverse medical effects for reasons that may or may not be related to ferumoxytol, but which could nevertheless adversely affect clinical trial results for ferumoxytol as an IV iron replacement therapeutic and could adversely affect our ability to obtain approval by the FDA. Any such adverse results from our Phase III clinical trials would likely have a severe adverse impact on our stock price.

Our results from pre-clinical testing, early clinical trials, and completed Phase III clinical trials of ferumoxytol as an IV iron replacement therapeutic may not be predictive of results obtained in subsequent human clinical trials with respect to the safety or efficacy of ferumoxytol. For example, although we had positive results and only one patient that was deemed to experience a drug-related SAE after receiving ferumoxytol in our three completed Phase III clinical trials of ferumoxytol, there can be no assurance that the results of our remaining Phase III trial will be positive or that we will not observe an unacceptable level of drug-related SAEs in this trial. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in early-stage, or even Phase III, development. In addition, new information may arise from our continuing analysis of the disclosed data that may be less favorable than currently anticipated. Clinical data

is often susceptible to varying interpretations and many companies that have believed their products performed satisfactorily in clinical trials have nonetheless failed to obtain FDA approval for their products. We cannot be sure that the data obtained from our Phase III clinical trials for ferumoxytol as an IV iron replacement therapeutic will support the indication we are seeking or demonstrate sufficient safety and efficacy to obtain regulatory approvals.

We may not be able to obtain the necessary regulatory approvals in order to market and sell our products, and the approval process is lengthy and unpredictable.

Prior to marketing, every product candidate must undergo an extensive regulatory approval process in the United States and in every other country in which we intend to test and market our product candidates and products. This regulatory process includes testing and clinical trials of product candidates to demonstrate safety and efficacy and can take many years and require the expenditure of substantial resources. In addition, changes in FDA or foreign regulatory approval policies or requirements may occur or new regulations may be promulgated which may result in a delay or failure to receive FDA or foreign regulatory approval. Delays and related costs in obtaining regulatory approvals could delay our product commercialization and revenue and consume our resources, both financial and managerial.

Clinical testing of pharmaceutical products is itself subject to approvals by various governmental regulatory authorities. For example, we conduct our Phase III clinical trials in accordance with specific protocols, which are filed with the FDA. The FDA could determine that there are flaws in the design of the protocols or conduct of the trials during the course of the studies which could require us to conduct additional Phase III trials or invalidate the data from completed trials.

Even if we complete our Phase III clinical trials in accordance with our protocols, the FDA may not approve ferumoxytol because it may determine that there were flaws in the design of our studies. For example, in discussions with us, the FDA recommended that we also test ferumoxytol at lower doses than 510 mg. We have chosen to continue our studies of ferumoxytol using only a 510 mg dose. If the FDA determines that the data we submit with our NDA for ferumoxytol does not support the safety of a 510 mg dose, it could require us to conduct additional studies and/or studies at lower doses as a condition for approval, in which case we could incur significant additional costs and experience significant delays in our efforts to obtain regulatory approval for ferumoxytol. In addition, the FDA guidelines generally suggest that a sponsor like us conduct two adequate and well-controlled studies to demonstrate the safety and efficacy of a product candidate such as ferumoxytol in support of FDA approval. FDA interpretation of the statutory requirements also states that a single study may be sufficient to support approval if the FDA determines that based on relevant science and other confirmatory evidence from pertinent, adequate and well-controlled studies, there is strong evidence to establish the safety and efficacy of the drug candidate to support a single adequate and well-controlled study demonstrating safety and efficacy. We have chosen to conduct only a single study for ferumoxytol as an IV iron replacement therapeutic in the hemodialysis dependent CKD patient population. If the FDA determines that the results of our single study in hemodialysis dependent CKD patients, together with other confirmatory evidence we provide, is not sufficiently strong to demonstrate ferumoxytol's safety and efficacy in hemodialysis dependent CKD patients, then ferumoxytol may not be approved by the FDA for our proposed indication or may be approved for a more limited indication. Any such deficiency in the design or oversight of our Phase III clinical studies by us would delay or prevent us from obtaining regulatory approval for ferumoxytol and would significantly increase the costs of our clinical trials and negatively affect our future prospects and stock price.

We may also be required to demonstrate that ferumoxytol as an IV iron replacement therapeutic represents an improved form of treatment over existing therapies in order to receive regulatory approval, and we may be unable to do so without conducting further clinical studies, if at all. If, upon completion of our current Phase III clinical trial program, we need to perform additional studies, we could incur significant additional costs and experience significant delays in our efforts to obtain regulatory approval for

ferumoxytol as an IV iron replacement therapeutic. In addition, regulatory approvals may entail limitations on the indicated uses of our ferumoxytol products and impose labeling requirements which may also adversely impact our ability to market such products. Any such requirements or limitations could also result in delays in, or the prevention of, our ability to make regulatory submissions and delays in, or the prevention of, the commercialization of our products. Any such delays would significantly impair or delay our ability to generate future revenues from product sales of ferumoxytol as an IV iron replacement therapeutic and adversely impact the future prospects for our business. Any such delays could also have a severe adverse impact on our stock price.

We may not complete our development program, file the NDA for ferumoxytol and obtain regulatory approval for ferumoxytol as an IV iron replacement therapeutic in a timely or cost-effective manner.

Our ability to complete our development program for ferumoxytol as an IV iron replacement therapeutic and file the NDA for ferumoxytol in a timely and cost-effective manner is subject to a number of uncertainties, many of which are out of our control. For example, we rely on third-parties for a variety of activities in our IV iron replacement therapy development program, including monitoring of our clinical sites, collection and analysis of data, clinical laboratory testing, drafting study reports and assisting in regulatory submissions. We are relying on a number of third party consultants to help us write and prepare the NDA submission for ferumoxytol. If we cannot engage a sufficient number of such third-parties or if they should fail to perform or perform inadequately, we may not complete our development program for ferumoxytol, file the NDA or obtain regulatory approval for ferumoxytol as an iron replacement therapeutic on our intended schedule or within our estimated budget. Any such delays or inadequate performance would also significantly impair or delay our ability to generate future revenues from sales of ferumoxytol as an IV iron replacement therapeutic and adversely impact the future prospects for our business and our stock price.

In addition to our internal research and development costs, we currently estimate that the future cost of the external efforts necessary to complete development prior to the submission of our NDA for ferumoxytol as an IV iron replacement therapeutic for the treatment of anemia in CKD patients in the U.S. will be in the range of approximately $7 to $9 million over approximately the next 6 to 9 months. Our total estimated external costs necessary to complete development of ferumoxytol as an IV iron replacement therapeutic could increase as a result of a number of factors. Examples of such factors include significant delays due to unexpected results from our clinical sites, inadequate performance or errors by third-party service providers, deficiencies in our design or oversight of these studies, or the need to conduct additional clinical trials.

We have limited marketing and sales experience.

We have very limited experience in marketing and selling products and rely on our corporate partners to market and sell *Feridex I.V.* and *GastroMARK*.

In order to achieve commercial success for ferumoxytol as an IV iron replacement therapeutic, we will have to either develop our own internal marketing and sales function, including a direct sales force, enter into a collaborative arrangement with a third party or parties to market and sell ferumoxytol, or otherwise contract for these services with a third party. If we market and sell ferumoxytol ourselves, we may not be able to successfully recruit and retain the qualified marketing and sales personnel that would be necessary to market and sell ferumoxytol. In addition, in order to establish our own marketing and sales force, we will have to expend substantial amounts of additional capital to support the costs associated with such an effort. We may not be able to secure additional financing, if necessary, on terms or within a timeframe acceptable to us, if at all. If we fail to raise any necessary capital, or choose not to market and sell ferumoxytol ourselves, we may not be able to enter into marketing and sales agreements or otherwise contract with others for such services on acceptable terms, if at all.

If we are unsuccessful in developing our own sales and marketing function or if we are unsuccessful in entering into a collaborative relationship or otherwise contracting with a third party for such services, then our product marketing efforts and potential product launch of ferumoxytol as an IV iron replacement therapeutic would be delayed and the commercialization of ferumoxytol would be severely impaired. Furthermore, whether we market and sell ferumoxytol ourselves or through marketing and sales arrangements, we, or our corporate partners, may not be successful in marketing and selling our products. Any delay or failure in our commercial product launch of ferumoxytol as an IV iron replacement therapeutic would have a material adverse impact on our ability to generate additional revenues, our ability to achieve profitability, and on the future prospects for our business.

We are dependent on a limited number of products and product candidates.

We have two products, *Feridex I.V.* and *GastroMARK*, currently approved for marketing and sale in the United States and in certain foreign jurisdictions. The only other products currently in our development pipeline, *Combidex* and ferumoxytol as an IV iron replacement therapeutic, are not yet approved for marketing or sale in the United States or in any other country. Sales of *Feridex I.V.* and *GastroMARK* by our marketing partners have been at relatively low levels in recent years, and we expect sales of *Feridex I.V.* and *GastroMARK* will remain at current low levels overall. We may not be able to obtain regulatory approval for *Combidex* or ferumoxytol as an IV iron replacement therapeutic in the United States or in any other country. Even if approved, *Combidex* and ferumoxytol as an IV iron replacement therapeutic may fail to achieve market acceptance. In this event, we do not currently have an alternative source of revenue or profits, other than *Feridex I.V.* and *GastroMARK*. Any failure by us to obtain approval of *Combidex* or ferumoxytol as an IV iron replacement therapeutic would have a material adverse impact on our ability to generate additional revenues, our ability to achieve profitability, and on the future prospects for our business.

In addition, although we have dedicated significant resources to our research and development efforts in the past, we may not develop new applications for our existing technology or expand the indications for our current products or product candidates for development into future product candidates. We are not currently conducting or sponsoring research to expand our development pipeline. Any failure by us to develop and commercialize additional products and product candidates will place greater pressure on the performance of our existing products and product candidates and will materially adversely affect our ability to increase revenues, our ability to achieve profitability, and the future prospects of our business.

Our inability to obtain raw materials and our reliance on sole source suppliers could adversely impact our business.

We currently purchase the raw materials used to manufacture our products from third-party suppliers. However, only in certain limited cases do we have any long-term supply contracts with these third parties. Certain raw materials used in our products are procured from a single source with no qualified alternative supplier. If any of these third-party suppliers should cease to produce the raw materials used in our products, we would be unable to manufacture our products until we were able to qualify an alternative source. For example, during fiscal 2005 one of our suppliers notified us of its decision to discontinue manufacturing a key raw material in our manufacturing process for our products. At that time, we purchased all remaining inventory from the supplier and have since identified an alternative supplier and are continuing our efforts to find a second supplier of this raw material. The qualification of an alternative source may require repeated testing of the new materials and generate greater expenses to us if materials that we test do not perform in an acceptable manner. In addition, we sometimes obtain raw materials from one vendor only, even where multiple sources are available, to maintain quality control and enhance working relationships with suppliers, which could make us susceptible to price inflation by the sole supplier, thereby increasing our production costs. As a result of the high quality standards imposed on our raw materials, we may not be able to obtain raw materials of the quality required to manufacture our

products from an alternative source on commercially reasonable terms, or in a timely manner, if at all. Any delay in or failure to obtain sufficient quantities of raw materials would prevent us from manufacturing our products, both for commercial sale and for use by us in clinical trials. In addition, even if we are able to obtain raw materials from an alternative source, if these raw materials are not available in a timely manner or on commercially reasonable terms, we would be unable to manufacture our products, both for commercial sale and for use in our clinical trials, on a timely and cost-effective basis. Any such difficulty in obtaining raw materials would severely hinder our ability to manufacture our products and would have a material adverse impact on our ability to generate additional revenues and our ability to achieve profitability, and on the future prospects for our business. Any such difficulty could also impede our development efforts with respect to our product candidates.

Our success is dependent on third-party reimbursement.

In both the United States and foreign markets, our ability to commercialize our products will depend in part on the extent to which reimbursement for the costs of such products and related treatments will be available from government health administration authorities, private health insurers and other third-party payors. We expect that our products will be purchased by hospitals, clinics, dialysis centers, doctors and other users that bill various third-party payors, such as Medicare, Medicaid and other government insurance programs, and private payors including indemnity insurers and managed care organizations such as health maintenance organizations. Most of these third-party payors provide coverage for IV iron replacement therapeutics and for MRI for some indications but may not include a separate payment for the use of an MRI contrast agent. Third-party private payors often mirror Medicare coverage policy and payment limitations in setting their own reimbursement payment and coverage policies. Reimbursement rates vary depending on the procedure performed, the third-party payor, the type of insurance plan and other factors.

In the United States, there have been, and we expect there will continue to be, a number of federal and state proposals to reform the health care system. Significant uncertainty exists as to the reimbursement status of newly-approved healthcare products and products which have competitors for their approved indications. If Medicare or third-party payors do not approve our therapeutic products, MRI products and/or related MRI procedures for reimbursement, or do not approve them for adequate levels of reimbursement, the adoption of our products may be limited. Sales may suffer as some physicians or their patients will opt for a competing product that is approved for sufficient reimbursement, or some patients may forgo the treatment or MRI procedure instead of paying out-of-pocket for costs associated with the treatment or procedure and contrast agent, and our ability to generate revenue may be impaired. Even if third-party payors make reimbursement available, these payors' reimbursement policies may be insufficient, which may negatively impact us and our corporate partners' ability to sell our products on a profitable basis.

Health care reform is an area of continuing national and international attention and a priority of many government officials. Future changes could impose limitations on the prices that can be charged in the United States and elsewhere for our products or the amount of reimbursement available for our products from government agencies or third-party private payors. The increasing use of managed care organizations, health maintenance organizations and the growing trend in capitated coverage as well as continued legislative proposals to reform healthcare and government insurance programs could significantly influence the purchase of healthcare services and products, resulting in lower prices and reduced demand for our products which could harm our ability to profit from product sales. In addition, recent and possible future legislation and regulations affecting the pricing of pharmaceuticals may change reimbursement in ways adverse to us that may affect the marketing of our current or future products. While we cannot predict the likelihood or timing of adoption of any of these legislative or regulatory proposals, if the government or a private third-party payor adopts these proposals, our ability to price our products at desired levels would be adversely affected.

We may not be successful in competing with other companies or our technology may become obsolete.

The pharmaceutical and biopharmaceutical industries are subject to intense competition and rapid technological change. We believe that our ability to compete successfully will depend on a number of factors including our ability to develop safe and efficacious products, our timely receipt of regulatory approvals, our ability to manufacture products at commercially acceptable costs, secure adequate reimbursement and the implementation of effective marketing campaigns by us or our marketing and distribution partners. We may not be able to successfully develop safe and efficacious products, obtain timely regulatory approvals, manufacture products at commercially acceptable costs, secure adequate reimbursement, market our products alone or with our partners, gain satisfactory market acceptance or otherwise successfully compete in the future.

We have many competitors currently developing and/or marketing IV iron replacement therapy products or MRI contrast agents, many of whom have substantially greater capital and other resources than we do and represent significant competition for us. For example, in May 2007, The Galenica Group, a Swiss company, or Galenica, announced that Luitpold Pharmaceuticals, Inc., a subsidiary of Daiichi Sankyo, Inc. of Japan, and the U.S. licensing partner of Vifor (International), a Galenica subsidiary, submitted an NDA to the FDA for Ferinject® (under the name Injectafer®). According to Galenica, Injectafer® is an IV iron replacement product for which approval is being sought in the treatment of iron deficiency anemia in heavy uterine bleeding, post partum, inflammatory bowel disease and hemodialysis patients. If the FDA approves Injectafer® during the current review period, commercial launch of the product may occur later this year. These companies may succeed in developing technologies and products that are safer, more effective or less costly than any that we may develop, and may be more successful than we are in developing, manufacturing and marketing products. In addition, our collaborators are not restricted from developing and marketing certain competing products and, as a result of certain cross-license agreements with our competitors (including one of our collaborators), our competitors will be able to utilize elements of our technology in the development of certain competing contrast agents. We may not be able to compete successfully with these companies. Further technological and product developments may make other iron replacement therapy products more competitive than IV iron products or other imaging modalities more compelling than MRI, and adversely impact sales of our iron replacement therapy and imaging products.

Additionally, although we believe ferumoxytol will offer advantages over existing products in the IV iron replacement therapy market, competing IV iron replacement therapy products may receive greater acceptance. The IV iron replacement market is highly sensitive to several factors including, but not limited to, the ability to obtain appropriate reimbursement, price competitiveness, and product characteristics such as dosing regimens. In particular, the IV iron replacement market is extremely sensitive to the perceived relative safety profiles of the various IV iron replacement therapeutics, and it will be critical for us to be able to demonstrate that ferumoxytol's safety profile is as good or better than that of other IV iron replacement products in order to be competitive in the marketplace. In addition, market acceptance of MRI as an appropriate technique for imaging the lymphatic system and the use of our products as part of such imaging is critical to the success of *Combidex*, if approved. Although we believe that our contrast agents offer advantages over competing MRI, CT or x-ray contrast agents, competing contrast agents might receive greater acceptance. Additionally, to the extent that other diagnostic techniques may be perceived as providing greater value than MRI, any corresponding decrease in the use of MRI could have an adverse effect on the demand for our contrast agent products.

Our operating results will likely fluctuate so you should not rely on a good or bad quarter to predict how we will perform over time.

Our future operating results will likely vary from quarter to quarter depending on a number of factors including:

- the timing and magnitude of external research and development expenses, in particular, those related to our development program for ferumoxytol as an IV iron replacement therapeutic;
- the timing and likelihood of FDA approval of ferumoxytol, including the magnitude of potential revenues associated with sales of ferumoxytol, if approved;
- the timing and magnitude of costs associated with the potential commercial launch of ferumoxytol, including manufacturing costs and costs associated with hiring additional sales and marketing personnel;
- the timing and likelihood of FDA approval of *Combidex*, including the magnitude of potential costs we may incur, to satisfy the conditions specified by the FDA for approval of *Combidex* and the magnitude of potential revenues associated with sales of *Combidex*, if approved;
- the variable nature of our product sales to our marketing partners and the batch size in which our products are manufactured;
- uneven demand for our products by end users which affects the royalties we receive from our marketing partners;
- the magnitude of future non-cash accounting charges we expect to record to expense in a given period as a result of our adoption of Statement of Financial Accounting Standards No. 123R; and
- the extent of and changes in reimbursement for our approved products from government health administration authorities, private health insurers and other third-party payors.

As a result of these and other factors, our quarterly operating results could fluctuate, and this fluctuation could cause the market price of our common stock to decline. Results from one quarter should not be used as an indication of future performance.

We need to maintain, and possibly increase, our manufacturing capabilities in order to commercialize our products.

We manufacture bulk *Feridex I.V.* and *GastroMARK,* as well as *Feridex I.V.* finished product, for sale by our marketing partners, *Combidex* bulk product for use in non-Phase III clinical trials and ferumoxytol for use in human clinical trials, in our Cambridge, MA manufacturing facility. Pending FDA approval, we intend to manufacture ferumoxytol finished product and *Combidex* formulated drug product in bulk at our manufacturing facility as well. This facility is subject to current Good Manufacturing Practices regulations prescribed by the FDA, or cGMP. We may not be able to continue to operate at commercial scale in compliance with cGMP regulations. Failure to operate in compliance with cGMP regulations and other applicable manufacturing requirements of various regulatory agencies could delay our development efforts and impede product sales due to the unavailability of our products and product candidates. In addition, we are dependent on contract manufacturers for the final production of *Combidex* and do not currently have any long-term contracts in place with any third-party manufacturers to conduct this work. In the event that we are unable to arrange final manufacturing for *Combidex*, if approved, we will not be able to develop and commercialize this product as planned. Additionally, we may not be able to enter into agreements for the manufacture of future products with manufacturers whose facilities and procedures comply with cGMP regulations and other regulatory requirements. Furthermore, such manufacturers may not be able to deliver required quantities of product that conform to specifications in a timely manner.

We currently have only one manufacturing facility at which we produce limited quantities of ferumoxytol. Although we have tested scale-up for production of ferumoxytol, when we manufacture ferumoxytol in larger volumes for commercial sale, we could experience higher than anticipated material, labor and overhead costs per unit. Additionally, manufacturing and quality control problems may arise as we increase our level of production. We may not be able to increase our manufacturing capacity in a timely and cost-effective manner, and we may experience delays in manufacturing ferumoxytol. Furthermore, if we fail to attract and retain key members of our manufacturing or quality control departments, we may be unable to manufacture our products and product candidates in a timely manner, which could delay our product sales and development efforts.

If we are unable to consistently manufacture our products on a timely basis because of these or other factors, we will not be able to meet anticipated demand. As a result, we may lose sales and fail to generate increased revenue.

We have a limited number of customers and are dependent on our collaborative relationships.

Our strategy for the development, commercialization and marketing of our product candidates in the past has been to enter into strategic relationships with various corporate partners, licensees and other collaborators. We rely on a limited number of marketing and distribution partners to market and sell our approved products, *Feridex I.V.* and *GastroMARK*, both in the United States and in foreign countries, and we depend on these strategic partners for a significant portion of our revenue. Three companies, Berlex, Guerbet and Mallinckrodt, accounted for 41%, 37% and 11%, respectively, of our revenues in fiscal 2006. A decrease in revenue from any of our significant marketing or distribution partners would impair our overall revenues. In some cases, we have granted exclusive rights to these partners. If these partners are not successful in marketing our products, or if these partners fail to meet minimum sales requirements or projections, our ability to generate revenue would be substantially harmed. For example, to date, we have not generated significant revenues on royalties from the sale of our approved products by our marketing partners. In addition, we might incur further costs in an attempt to enforce our contractual rights, renegotiate agreements, find new partners or market our own products. In some cases, we are dependent upon some of our collaborators to manufacture and market our products. We may not be able to derive any revenues from these arrangements. If any of our collaborators breaches its agreement with us or otherwise fails to perform, such event could impair our revenue and impose additional costs on us. In addition, many of our corporate partners have considerable discretion in electing whether to pursue the development of any additional products and may pursue technologies or products either on their own or in collaboration with competitors. Given these and other risks, our current and future collaborative efforts may not be successful. Failure of these efforts would materially adversely impact our ability to generate revenue from product sales, thereby decreasing the amount of cash from operations available to support our development efforts for our existing product candidates in development.

Due to the high cost of our research and development activities, in particular the cost of clinical trials and preparation of an NDA for filing with the FDA for ferumoxytol as an IV iron replacement therapeutic, our inability to secure strategic partners or alternative strategic arrangements could limit our ability to continue developing ferumoxytol or force us to raise additional capital through alternative means which may not be available to us on acceptable terms or within an acceptable timeframe, if at all. Any delay in, or termination of, any of our research and development projects due to insufficient funds resulting from lack of revenue from strategic partners or alternative capital raising or strategic arrangements would reduce our potential revenues and negatively impact our stock price.

We may be unable to address the issues raised by the FDA in the March 2005 approvable letter with respect to Combidex, and we may not be able to obtain FDA approval for Combidex.

Although we have received an approvable letter from the FDA with respect to *Combidex*, approval of *Combidex* remains very uncertain and subject to the satisfaction of certain conditions imposed by the FDA

and final resolution of labeling. We may be unable to address the conditions specified in the March 2005 approvable letter to the satisfaction of the FDA, or we may be unable to satisfy these conditions in a timely manner and/or without the expenditure of significant additional resources, both financial and managerial. If we are unable to successfully address the concerns of the FDA in a timely manner, the NDA for *Combidex* may not be approved, or, if approved, may be approved for a limited or much narrower indication. If we are unable to obtain approval or are unable to obtain approval for our requested indication or if the FDA recommends labeling that imposes limitations on the use of *Combidex*, our partners' ability to market the product to the medical community may be prevented or hindered. Any failure to successfully market and sell *Combidex* or any delay in these efforts would significantly impair or delay our ability to generate future revenues from product sales of *Combidex*, reduce the amount of cash generated from operations available to fund research and development or other activities and adversely impact the future prospects for our business.

Our success depends on our ability to attract and retain key employees.

Because of the specialized nature of our business, we are highly reliant on our executive officers, senior scientists, regulatory and clinical professionals, and manufacturing and quality control personnel, including our Chief Executive Officer and President, Brian J.G. Pereira, MD, and our VP of Scientific Operations, Jerome Lewis. If we are unable to attract and retain qualified scientific, technical, clinical, regulatory and sales and marketing personnel for the development activities conducted or sponsored by us, including our development program for ferumoxytol as an IV iron replacement therapeutic, or we fail to hire qualified people or lose the services of our key personnel, our product development efforts could be delayed or curtailed. For example, in order to achieve commercial success for ferumoxytol as an IV iron replacement therapeutic, we will have to either develop our own internal marketing and sales function, including a direct sales force, enter into a collaborative arrangement with a third party or parties to market and sell ferumoxytol, or otherwise contract for these services with a third party. If we market and sell ferumoxytol ourselves, we may not be able to successfully recruit and retain the qualified marketing and sales personnel that would be necessary to market and sell ferumoxytol. In addition, if we fail to attract and retain key members of our manufacturing or quality control departments, our ability to manufacture our products, or to manufacture our products in a timely and cost-effective manner, could be hindered and our product sales and development efforts delayed. Furthermore, our expected expansion into areas and activities requiring additional expertise, such as late-stage development and marketing and sales, will require the addition of new management personnel and the development of additional expertise by existing management personnel, which would increase our projected research and development costs and accelerate our need for additional financing. There is intense competition for qualified personnel in the areas of our activities, and we may not be able to continue to attract and retain the qualified personnel necessary for the development of our business. The failure to attract and retain such personnel or to develop such expertise could impose significant limits on our business operations and hinder our ability to successfully and efficiently complete our development projects.

We cannot be certain that our products will be accepted in the marketplace.

For a variety of reasons, many of which are beyond our control, our products may not achieve market acceptance or become commercially successful. If our products do not receive market acceptance for any reason, it may limit sales of our products and reduce our revenues from royalties and direct sales, if any. The degree of market acceptance of any of our products will depend on a number of factors, including:

- the establishment and demonstration in the medical community of the clinical efficacy and safety of our products;
- our products' potential advantage over existing treatments or diagnostic methods; and
- reimbursement policies of government and third-party payors, including insurance companies.

For example, even if we obtain regulatory approval to sell our products, physicians and health care payors could conclude that our products are not safe or effective and decide not to use them to treat patients. Our competitors may also develop new technologies or products which are more effective or less costly, or that are perceived as more effective or cost-effective than our products. Physicians, patients, third-party payors or the medical community in general may fail to accept or choose not to use any of the products that we develop.

To date, we have not generated significant revenues on royalties from the sale of our approved products by our marketing partners, and these products have not achieved broad market acceptance. *Feridex I.V.* and *GastroMARK*, approved in 1996 and 1997, respectively, represented an alternative technology platform for physicians to adopt in MRI. *Feridex I.V.* sales have decreased from their peak based on changes in MRI technology and competition in the market, and we expect product sales of *Feridex I.V.* to remain at current low levels overall. *Combidex*, if approved, will represent a shift in the diagnostic process that physicians could use to stage and monitor cancer patients that may not be adopted by physicians. In addition, ferumoxytol, if approved as an IV iron replacement therapeutic, will represent an alternative to existing products or procedures that might not be adopted by the medical community, especially if it is perceived to not be as safe as other available products which are equally effective. If our approved products or future products are not adopted by physicians, revenues will be delayed or fail to materialize, and our ability to achieve profitability will be significantly adversely effected.

We may need additional capital to achieve our business objectives.

We have expended and will continue to expend substantial funds to complete the research, development, clinical trials, applications for regulatory approvals, market conditioning and other activities necessary to achieve final commercialization of our product candidates, ferumoxytol as an IV iron replacement therapeutic and *Combidex*. In particular, we anticipate that the high levels of expenditures related to our development activities will continue due to the conduct of our development program for ferumoxytol as an IV iron replacement therapeutic, our preparation of the NDA for ferumoxytol, our development of a sales and marketing function, our pursuit of additional indications for ferumoxytol, and our efforts to obtain approval for ferumoxytol outside the U.S., and that our cash-burn rate will continue to increase in the near- and long-term. Our near- and long-term capital requirements will also depend on additional factors, including, but not limited to,

- the progress of, and our ability to successfully complete, development of ferumoxytol as an IV iron replacement therapeutic in a timely manner and within our projected budget;
- our need to hire additional staff and lease additional office space as part of our commercialization efforts for ferumoxytol as an IV iron replacement therapeutic, including our efforts to build an internal sales and marketing function;
- the costs associated with preparing for commercial-scale manufacturing of ferumoxytol as an IV iron replacement therapeutic and *Combidex*, including the costs associated with qualifying second source suppliers and a second manufacturing facility;
- costs associated with our potential development of additional indications for ferumoxytol;
- costs associated with our pursuit of approval for ferumoxytol as an IV iron replacement therapeutic in Europe and other countries;
- our ability to successfully obtain regulatory approvals for our product candidates, including our ability to satisfy the conditions specified by the FDA for approval of *Combidex*;
- our ability to obtain appropriate reimbursement from governmental and other third party payors for our products and product candidates;
- the magnitude of product sales and royalties;

our ability to establish additional development and marketing arrangements or to enter into alternative strategic relationships, if needed;

the costs involved in filing, prosecuting and enforcing patent claims; and

our ability to raise additional capital on terms and within a timeframe acceptable to us.

We estimate that our existing cash resources, combined with cash we currently expect to receive from other sources, excluding new financings, will be sufficient to finance our operations, including projected operating expenses and research and development costs related to the development program for ferumoxytol as an IV iron replacement therapeutic, for at least the next twelve months. Thereafter, we may require additional funds or need to establish alternative strategic arrangements to continue our research and development activities, including our ferumoxytol and *Combidex* development programs, to conduct future clinical trials for ferumoxytol in new indications and in countries outside the U.S., and to market and sell our products. We may seek needed funding through arrangements with collaborative partners or through public or private equity or debt financings. We may not be able to obtain financing or to secure alternative strategic arrangements on acceptable terms or within an acceptable timeframe, if at all. Any additional equity financings or alternative strategic arrangements would likely be dilutive to our stockholders. In addition, the terms of any debt financing could greatly restrict our ability to raise additional capital and may provide rights and preferences to the investors in any such financing which are not available to current stockholders. Our inability to raise additional capital on terms and within a timeframe acceptable to us when needed could force us to dramatically reduce our expenses and delay, scale back or eliminate certain of our activities and operations, including our research and development activities, any of which could have a material adverse effect on our business, financial condition and results of operations.

Our success depends on our ability to maintain the proprietary nature of our technology.

We rely on a combination of patents, trademarks, copyrights and trade secrets in the conduct of our business. The patent positions of pharmaceutical and biopharmaceutical firms are generally uncertain and involve complex legal and factual questions. We may not be successful or timely in obtaining any patents for which we submit applications. The breadth of the claims obtained in our patents may not provide significant protection for our technology. The degree of protection afforded by patents for licensed technologies or for future discoveries may not be adequate to protect our proprietary technology. The patents issued to us may not provide us with any competitive advantage. In addition, there is a risk that others will independently develop or duplicate similar technology or products or circumvent the patents issued to us.

Moreover, patents issued to us may be contested or invalidated. Future patent interference proceedings involving either our patents or patents of our licensors may harm our ability to commercialize our products. Claims of infringement or violation of the proprietary rights of others may be asserted against us. If we are required to defend against such claims or to protect our own proprietary rights against others, it could result in substantial costs to us and distraction of our management. An adverse ruling in any litigation or administrative proceeding could prevent us from marketing and selling our products, limit our development of our product candidates or harm our competitive position and result in additional significant costs. In addition, any successful claim of infringement asserted against us could subject us to monetary damages or injunction preventing us or our marketing partners from making or selling products. We also may be required to obtain licenses to use the relevant technology. Such licenses may not be available on commercially reasonable terms, if at all.

We currently hold approximately 19 U.S. patents and approximately 29 foreign patents, which expire between the years 2007 and 2020, some of which are subject to extension under FDA regulations. Because certain patents that cover our products will begin to expire in the coming years, the protection provided by these patents will also begin to expire. Our inability to commercialize our products prior to the expiration of our patents could have a material adverse effect on our business, financial condition and prospects. In the future, we may be required to obtain additional licenses to patents or other proprietary rights of others in order to commercialize our products or continue with our development efforts. Such licenses may not be available on acceptable terms, if at all. The failure to obtain such licenses could result in delays in marketing our products or our inability to proceed with the development, manufacture or sale of our products or product candidates requiring such licenses. In addition, the termination of any of our existing licensing arrangements could impair our revenues and impose additional costs which could limit our ability to sell our products commercially.

The laws of foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States. In countries where we do not have or have not applied for patents on our products, we will be unable to prevent others from developing or selling similar products. In addition, in jurisdictions outside the United States where we have patent rights, we may be unable to prevent unlicensed parties from selling or importing products or technologies derived elsewhere using our proprietary superparamagnetic iron oxide nanoparticle technology.

We also rely upon unpatented trade secrets and improvements, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our corporate partners, collaborators, employees and consultants. These agreements, however, may be breached. We may not have adequate remedies for any such breaches, and our trade secrets might otherwise become known or be independently discovered by our competitors. In addition, we cannot be certain that others will not independently develop substantially equivalent or superseding proprietary technology, or that an equivalent product will not be marketed in competition with our products, thereby substantially reducing the value of our proprietary rights.

We are exposed to potential liability claims and we may not be able to maintain or obtain sufficient insurance coverage.

We maintain product liability insurance coverage for claims arising from the use of our products and product candidates in clinical trials and commercial use. However, coverage is becoming increasingly expensive and costs may continue to increase significantly particularly as our development program for ferumoxytol continues, and we may not be able to maintain insurance at a reasonable cost. Furthermore, our insurance may not provide sufficient coverage amounts to protect us against liability that could deplete our capital resources. We also may not be able to obtain commercially reasonable product liability insurance for any product approved for marketing in the future. Our insurance coverage and our resources may not be sufficient to satisfy any liability or cover costs resulting from product liability claims. A product liability claim or series of claims brought against us could reduce or eliminate our resources, whether or not the plaintiffs in such claims ultimately prevail. In addition, pursuant to our certificate of incorporation, by-laws and contractual agreements with our directors, and in order to attract competent candidates, we are obligated to indemnify our officers and directors against certain claims arising from their service to us. We maintain directors and officers' liability insurance to cover such potential claims against our officers and directors. However, this insurance may not be adequate for certain claims and deductibles apply. As a result of our indemnification obligations and in instances where insurance coverage is not available or insufficient, any liability claim or series of claims brought against our officers or directors could deplete or exhaust our resources, regardless of the ultimate disposition of such claims.

We are subject to environmental laws and potential exposure to environmental liabilities.

Because we use certain hazardous materials in the production of our products, we are subject to various federal, state and local environmental laws and regulations that govern our operations, including the handling and disposal of non-hazardous and hazardous wastes, and emissions and discharges into the environment. Failure to comply with these laws and regulations could result in costs for corrective action, penalties or the imposition of other liabilities. We also are subject to laws and regulations that impose liability and clean-up responsibility for releases of hazardous substances into the environment. Under certain of these laws and regulations, a current or previous owner or operator of property may be liable for the costs of remediating the release or spill of hazardous substances or petroleum products on or from its property, without regard to whether the owner or operator knew of, or caused, the contamination, and such owner or operator may incur liability to third parties impacted by such contamination. The presence of, or failure to remediate properly the release or spill of, these substances could adversely affect the value of, and our ability to transfer or encumber, our real property.

We may be unable to comply with continuing regulatory requirements even after our products have been approved for marketing.

Even if we obtain regulatory approval for our product candidates, a marketed product and its manufacturer are subject to continuing regulatory review. Noncompliance with the regulatory requirements of the approval process at any stage may result in adverse consequences, including the FDA's withdrawal of an approved product from the market or, under certain circumstances, the imposition of criminal penalties. We may be restricted or prohibited from marketing or manufacturing a product, even after obtaining product approval, if previously unknown problems with the product or its manufacture are subsequently discovered. Any such adverse consequence could limit or preclude our ability to sell our products commercially which would hinder our ability to generate revenue through royalties or direct sales of our products.

Risks Related to the Offering

Our stock price has been and may continue to be volatile, and your investment in our stock could decline in value or fluctuate significantly.

The market price of our common stock has been, and may continue to be, volatile. This price has ranged between $23.01 and $72.95 in the fifty-two week period through May 22, 2007. The stock market has from time to time experienced extreme price and volume fluctuations, particularly in the biotechnology and pharmaceuticals sectors, which have often been unrelated to the operating performance of particular companies. Various factors and events, including announcements by us or our competitors concerning results of regulatory actions, changes in reimbursement, technological innovations, new products, clinical trial results, agreements with collaborators, governmental regulations, developments in patent or other proprietary rights, or public concern regarding the safety of products developed by us or others, may have a significant impact on the market price of our common stock. For example, any announcement by us of any actual or perceived adverse results from our clinical trials for ferumoxytol as an IV iron replacement therapeutic, particularly any actual or perceived adverse results with respect to ferumoxytol's safety profile, would likely have a dramatic adverse impact on our stock price. Thus, as a result of events both within and beyond our control, our stock price could fluctuate significantly or lose value rapidly. Our trading volume has historically been low and therefore bulk sales or substantial purchases of our stock in a short period of time could cause the market price for our shares to decline or fluctuate drastically.

If securities analysts downgrade our stock or cease coverage of us, the price of our stock could decline.

The trading market for our common stock relies in part on the research and reports that industry or financial analysts publish about us or our business. Currently, five financial analysts publish reports about

us and our business. We do not control these or any other analysts. Furthermore, there are many large, well-established, publicly traded companies active in our industry and market, which may mean that it is less likely that we will receive widespread analyst coverage. If any of the analysts who cover us downgrade our stock, our stock price would likely decline rapidly. If these analysts cease coverage of our company, we could lose visibility in the market, which in turn could cause our stock price to decline.

Future sales of additional shares of our common stock could cause the price of our common stock to decline.

Sales of substantial amounts of our common stock in the public market following this offering, or the perception by the market that those sales could occur, may lower our stock price or make it difficult for us to raise additional equity capital in the future. For example, one of our large stockholders may decide to sell a substantial portion of its shares of our common stock. In addition, the issuance of common stock upon exercise of outstanding options could be dilutive, and may cause the market price for a share of our common stock to decline. As of May 21, 2007, we had 14,244,942 shares of common stock issued and outstanding, together with outstanding options to purchase approximately 1,171,598 shares of common stock with a weighted average exercise price of $29.19 per share and 31,000 shares of common stock issuable upon the vesting of restricted stock units.

An investment in our common stock may decline in value as a result of announcements of business developments by us or our competitors.

The market price of our common stock is subject to substantial volatility as a result of announcements by us or other companies in our industry. As a result, purchasers of our common stock may not be able to sell their shares of common stock at or above the price at which they purchased such stock. Announcements which may subject the price of our common stock to substantial volatility include announcements regarding:

- the results of discovery, preclinical studies and clinical trials by us or our competitors;
- the acquisition of technologies, product candidates or products by us or our competitors;
- the development of new technologies, product candidates or products by us or our competitors;
- regulatory actions with respect to our product candidates or products or those of our competitors;
- the initiation or conclusion of litigation to enforce or defend any of our assets; and
- significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors.

We could be subject to class action litigation due to stock price volatility, which, if it occurs, will distract our management and could result in substantial costs or large judgments against us.

The stock market in general has recently experienced extreme price and volume fluctuations. In addition, the market prices of securities of companies in the biotechnology industry have been extremely volatile and have experienced fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. These fluctuations could adversely affect the market price of our common stock. In the past, securities class action litigation has often been brought against companies following periods of volatility in the market prices of their securities. We may be the target of similar litigation in the future. Securities litigation could result in substantial costs and divert our management's attention and resources, which could cause serious harm to our business, operating results and financial condition.

Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds effectively.

We have not designated the amount of net proceeds we will use for any particular purpose. Accordingly, our management will have broad discretion as to the application of the net proceeds and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. Moreover, our management may use the net proceeds for corporate purposes that may not yield profitable results or increase our market value.

You will experience immediate dilution in the book value per share of the common stock you purchase.

Because the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on a public offering price of $65.14 per share, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of $47.22 per share in the net tangible book value of the common stock. If the underwriters exercise their over-allotment option, you will experience additional dilution. See "Dilution" on page S-27 for a more detailed discussion of the dilution you will incur in this offering.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

We have made and incorporated by reference statements in this prospectus supplement and the accompanying prospectus that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. These laws provide a "safe harbor" for forward-looking statements to encourage companies to provide prospective information about themselves so long as they identify these statements as forward-looking and provide meaningful cautionary statements identifying important factors that could cause actual results to differ from the projected results. All statements other than statements of historical fact we make in this prospectus supplement and the accompanying prospectus or in any document incorporated by reference are forward-looking statements. These statements are based on management's beliefs and assumptions and on information currently available to management and use words such as "expect," "anticipate," "intend," "plan," "believe," "estimate," or similar expressions. Forward-looking statements include information concerning possible or assumed future results of operations, future product development and related clinical trials, statements regarding future research and development and statements regarding our expected expenses and cash flow needs. Forward-looking statements reflect our current expectations and are subject to various known and unknown risks, uncertainties and other factors. Our actual results could differ materially from those anticipated in these forward-looking statements. Important factors that could cause these differences include, among others, those set forth below. Please read carefully the information discussed under "Risk Factors" in this prospectus supplement and the accompanying prospectus as well as other factors which may be described from time to time in our filings with the Securities and Exchange Commission, or SEC, including our Annual Report on Form 10-K for the fiscal year ended September 30, 2006.

These cautionary statements should not be construed by you to be exhaustive and they are made only as of the date of this prospectus supplement. You should not rely upon forward-looking statements except as statements of our present intentions and of our present expectations, which may or may not occur. You should read these cautionary statements as being applicable to all forward-looking statements wherever they appear. We assume no obligation, except as specifically required by law and the rules of the SEC, to update the forward-looking statements or the reasons why actual results could differ from those projected in the forward-looking statements to reflect events or circumstances after the date hereof.

USE OF PROCEEDS

We expect to receive net proceeds of approximately $154.5 million after deducting underwriting discounts and commissions and estimated offering expenses payable by us, at a public offering price of $65.14 per share. If the underwriters exercise in full their option to purchase 375,000 additional shares, we expect to receive net proceeds of approximately $177.7 million. We intend to use the net proceeds from this offering for general corporate purposes, including working capital, research and development expenditures, sales and marketing expenditures, including those related to building our commercial operations infrastructure, developing new indications for ferumoxytol, pursuing foreign approvals for ferumoxytol and capital expenditures. Pending the use of the net proceeds, we intend to invest the net proceeds in interest-bearing, investment-grade and U.S. government securities.

DILUTION

If you invest in our common stock, your interest will be diluted immediately to the extent of the difference between the public offering price per share of our common stock and the net tangible book value per share of our common stock after this offering.

Our net tangible book value as of March 31, 2007 was approximately $144.9 million, or $10.20 per share of common stock. "Net tangible book value" is calculated by subtracting our total liabilities from our total tangible assets, which is total assets less intangible assets. "Net tangible book value per share" is net tangible book value divided by the number of shares of common stock outstanding.

After giving effect to the issuance and sale by us of 2,500,000 shares of common stock offered in this offering at a public offering price of $65.14 per share and after deducting the estimated underwriting discounts and commissions and offering expenses payable by us, our net tangible book value as of March 31, 2007 would have been approximately $299.4 million, or $17.92 per share of common stock. This represents an immediate increase in the net tangible book value of $7.72 per share to our existing stockholders and an immediate and substantial dilution in net tangible book value of $47.22 per share to new investors. The following table illustrates this per share dilution:

Public offering price per share		$ 65.14
Net tangible book value per share as of March 31, 2007	$ 10.20	
Increase in net tangible book value per share attributable to the offering	7.72	
Net tangible book value per share after giving effect to this offering		17.92
Dilution per share to new investors in this offering		$ 47.22

In the discussion and table above, we assume no exercise of outstanding options or vesting of outstanding restricted stock units. As of March 31, 2007, there were 1,157,873 shares of common stock issuable upon exercise of outstanding options with a weighted average exercise price of $26.33 per share and 33,000 shares of common stock issuable upon the vesting of restricted stock units. To the extent that any of these outstanding options are exercised or any of the restricted stock units vest, there will be further dilution to new investors.

The discussion and table above excludes an aggregate of 534,833 additional shares of common stock reserved for future issuance as of March 31, 2007 under our Amended and Restated 2000 Stock Plan, our 2003 Employee Stock Purchase Plan and our 2006 Employee Stock Purchase Plan.

UNDERWRITING

Under the terms and subject to the conditions contained in an underwriting agreement dated the date of this prospectus supplement, the underwriters named below, for whom Morgan Stanley & Co. Incorporated is acting as representative, have severally agreed to purchase, and we have agreed to sell to them, the number of shares of common stock indicated in the table below:

Name	Number of Shares
Morgan Stanley & Co. Incorporated	1,250,000
Bear, Stearns & Co. Inc.	375,000
Deutsche Bank Securities Inc.	375,000
Jefferies & Company, Inc.	375,000
ThinkEquity Partners LLC	125,000
Total	2,500,000

The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus supplement and the accompanying prospectus are subject to the approval of certain legal matters by their counsel and to other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus supplement if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the public offering price listed on the cover page of this prospectus supplement, less underwriting discounts and commissions, and part to certain dealers at a price that represents a concession not in excess of $1.95 per share under the public offering price. No underwriter may allow, and no dealer may re-allow, any concession to other underwriters or to certain dealers. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representative.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus supplement, to purchase up to an aggregate of 375,000 additional shares of common stock at the public offering price, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus supplement. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase approximately the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table. If the underwriters' over-allotment option is exercised in full, the total price to the public would be $187.3 million, the total underwriters' discounts and commissions would be $9.4 million and the total proceeds to us would be $177.9 million.

The following table shows the per share and total underwriting discounts and commissions that we are to pay to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters' option.

	No Exercise	Full Exercise
Per share	$ 3.257	$ 3.257
Total	$ 8,142,500	$ 9,363,875

In addition, we estimate that the expenses of this offering other than underwriting discounts and commissions payable by us will be approximately $200,000.

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed five percent of the total number of shares of common stock offered by them.

We and all of our current directors and executive officers have agreed that, without the prior written consent of Morgan Stanley & Co. Incorporated on behalf of the underwriters, we and they will not, during the period beginning on the date of this prospectus supplement and ending 90 days thereafter:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or

- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock;

- whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise.

The restrictions described in this paragraph do not apply to:

- the sale of shares of common stock to the underwriters;

- the issuance by us of employee stock options and other stock-based awards pursuant to stock option plans described in the prospectus;

- the issuance by us of shares of common stock upon the exercise of an option or a warrant or the conversion of a security outstanding on the date of this prospectus supplement of which the underwriters have been advised in writing;

- transactions by any person other than us relating to shares of common stock or other securities acquired in open market transactions after the completion of the offering of the shares, provided that no filing by any party under Section 16(a) of the Exchange Act will be required or will be voluntarily made in connection with subsequent sales of common stock or other securities acquired in such open market transactions;

- the purchase or sale of our securities pursuant to a plan, contract or instruction that satisfies Rule 10b5-1 under the Exchange Act and was in effect prior to the date hereof;

- transfers of shares of our common stock or securities convertible into our common stock as a bona fide gift, to any trust for the direct or indirect benefit of the stockholder or the immediate family of the stockholder, or to certain entities affiliated with the stockholder, provided the transferee agrees to be bound by the lock-up restrictions and no filing is made or required to be made under Section 16(a) of the Exchange Act.

In order to facilitate this offering of common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option. The underwriters can close out a covered short sale by exercising the over-allotment option or by purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also

sell shares in excess of the over-allotment option, creating a naked short position. The underwriters must close out any naked short position by purchasing shares in the open

market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. In addition, to stabilize the price of the common stock, the underwriters may bid for and purchase shares of common stock in the open market. Finally, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the common stock in the offering, if the syndicate repurchases previously distributed common stock to cover syndicate short positions or to stabilize the price of the common stock. These activities may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities and may end any of these activities at any time.

Our common stock is quoted on the Nasdaq Global Market under the symbol "AMAG."

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus supplement or accompanying prospectus in electronic format may be made available on the web sites maintained by one or more of the underwriters, and one or more of the underwriters may distribute prospectuses electronically. Other than the prospectus supplement or accompanying prospectus in electronic format, the information on any of these websites and any other information contained on a website maintained by an underwriter or syndicate member is not part of this prospectus supplement or accompanying prospectus. The underwriters may agree to allocate a number of shares to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the underwriters that make Internet distributions on the same basis as other allocations.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive, each underwriter has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Member State it has not made and will not make an offer of shares to the public in that Member State, except that it may, with effect from and including such date, make an offer of shares to the public in that Member State:

at any time to legal entities which are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;

at any time to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than €43,000,000 and (3) an annual net turnover of more than €50,000,000, as shown in its last annual or consolidated accounts; or

at any time in any other circumstances which do not require the publication by us of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of the above, the expression an "offer of shares to the public" in relation to any shares in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State and the expression Prospectus Directive means Directive 2003/71/EC and includes any relevant implementing measure in that Member State.

Each underwriter has represented and agreed that it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000) in connection with the issue or sale of the shares in circumstances in which Section 21(1) of such Act does not apply to us and it has complied and will comply with all applicable provisions of such Act with respect to anything done by it in relation to any shares in, from or otherwise involving the United Kingdom.

LEGAL MATTERS

The validity of the common stock and certain other legal matters will be passed upon for us by Sullivan & Worcester LLP, Boston, Massachusetts. Ropes & Gray LLP will pass upon certain legal matters in connection with this offering for the underwriters.

EXPERTS

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended September 30, 2006 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. You may read and copy the reports, proxy statements and other information that we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for information about the operation of its Public Reference Room and for its prescribed rates to obtain copies of such material. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding registrants, like us, that file electronically with the SEC. The address of the SEC's Internet site is http://www.sec.gov. Our website is http://www.advancedmagnetics.com.

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and other filings with the SEC are available, free of charge, through our website, shortly after those reports or filings are electronically filed with or furnished to the SEC. Information on our website or any other website is not incorporated by reference into this prospectus supplement or the accompanying prospectus and does not constitute a part of this prospectus supplement or the accompanying prospectus.

This prospectus supplement is part of a registration statement we filed with the SEC relating to the securities we may offer. As permitted by SEC rules, this prospectus supplement does not contain all of the information we have included in the registration statement and the accompanying exhibits and schedules we filed with the SEC. You may refer to the registration statement, exhibits and schedules for more information about us and the securities. The registration statements, exhibits and schedules are available at the SEC's public reference room or through its website.

The SEC allows us to "incorporate by reference" the information we have filed with it, which means that we can disclose important information by referring you to those documents. The information we incorporate by reference is an important part of this prospectus supplement and the accompanying prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference into this prospectus supplement and the accompanying prospectus any future documents filed with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of this prospectus supplement and prior to the termination of the offering.

PROSPECTUS

Common Stock
Preferred Stock
Warrants

We may offer and sell, from time to time, in one or more offerings:

- common stock;
- preferred stock; and
- warrants.

These securities may be offered and sold separately or together in units with other securities described in this prospectus.

We will indicate the particular securities we offer and their specific terms in a supplement to this prospectus. In each case, we would describe the type and amount of securities we are offering, the initial public offering price and the other terms of the offering.

Our common stock is listed on the Nasdaq Global Market under the symbol "AMAG." We will make applications to list any shares of common stock sold pursuant to a supplement to this prospectus on the Nasdaq Global Market. We have not determined whether we will list any of the other securities we may offer on any exchange or over-the-counter market. If we decide to seek listing of any securities, the supplement will disclose the exchange or market.

Investing in our securities involves risks. See "Risk Factors" beginning on page 2.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Our principal executive office is at 125 CambridgePark Drive, 6th Floor, Cambridge, Massachusetts 02140, and our telephone number is (617) 498-3300.

The date of this prospectus is May 16, 2007.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement we filed with the Securities and Exchange Commission, or the SEC, using a "shelf" registration process. Under this shelf process, we may sell any combination of the securities described in this prospectus from time to time in one or more offerings.

This prospectus provides you only with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement containing specific information about the terms of that offering. The prospectus supplement may also add to, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the headings "Where You Can Find More Information" and "Documents Incorporated By Reference."

You should rely only on the information incorporated by reference or provided in this document. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We will not make an offer of these securities in any jurisdiction where it is unlawful. You should assume that the information in this prospectus, as well as the information we have previously filed with the SEC and incorporated by reference in this prospectus, is accurate only as of the date of the documents containing the information.

References in this prospectus to the terms "Advanced Magnetics," "company," "we," "our" or "us" or other similar terms means Advanced Magnetics, Inc.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

We have made and incorporated by reference statements in this document that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. These laws provide a "safe harbor" for forward-looking statements to encourage companies to provide prospective information about themselves so long as they identify these statements as forward-looking and provide meaningful cautionary statements identifying important factors that could cause actual results to differ from the projected results. All statements other than statements of historical fact we make in this prospectus or in any document incorporated by reference are forward-looking statements. These statements are based on management's beliefs and assumptions and on information currently available to management and use words such as "expect," "anticipate," "intend," "plan," "believe," "estimate," or similar expressions. Forward-looking statements include information concerning possible or assumed future results of operations, the status, anticipated timing and results of our product development and commercialization programs for ferumoxytol and Combidex®, including related clinical trials, our anticipated expenses associated with our product development and commercialization programs, our anticipated cash needs and potential need for additional financing, and statements regarding future research and development. Forward-looking statements reflect our current expectations and are subject to various known and unknown risks, uncertainties and other factors. Our actual results could differ materially from those anticipated in these forward-looking statements. Important factors that could cause these differences include, among others, those set forth below:

- the progress, timing and results of our product development program for our product candidates, including uncertainties relating to our ability to successfully complete the clinical development of our product candidates,

- the timing and results of regulatory interactions regarding the clinical development of our product candidates and uncertainties relating to our ability to obtain regulatory approval to market and sell our product candidates,

our ability to obtain raw materials and continue to operate at commercial scale in compliance with applicable manufacturing requirements,

our ability to compete successfully against our competitors and the acceptance of our products in the marketplace,

the availability of favorable reimbursement for the cost of our products and product candidates and related treatments from governmental health administration authorities, private health insurers and other third party payors, such as Medicare and Medicaid,

our ability to hire additional staff and lease additional space as part of our commercialization efforts for ferumoxytol,

our ability to raise additional capital on terms and within a timeframe acceptable to us,

uncertainties relating to the variable nature of our product sales cycles, and

other trends in competitive or economic conditions affecting our financial condition or results of operations not presently contemplated.

For a more detailed discussion of these factors, please read carefully the information discussed under "Risk Factors" in the applicable prospectus supplement to be provided with this prospectus as well as other factors which may be described from time to time in our filings with the SEC.

These cautionary statements should not be construed by you to be exhaustive and they are made only as of the date of this prospectus. You should not rely upon forward-looking statements except as statements of our present intentions and of our present expectations, which may or may not occur. You should read these cautionary statements as being applicable to all forward-looking statements wherever they appear. We assume no obligation, except as specifically required by law and the rules of the SEC, to update the forward-looking statements or the reasons why actual results could differ from those projected in the forward-looking statements to reflect events or circumstances after the date hereof.

OUR COMPANY

This business overview does not contain all of the information that you should consider before investing in our securities. You should read the entire prospectus carefully, including the "Risk Factors" section and the financial statements and the notes to those statements incorporated herein by reference, before making an investment decision.

Advanced Magnetics, Inc. was incorporated in Delaware in November 1981 and is a biopharmaceutical company that utilizes its proprietary nanoparticle technology for the development and commercialization of therapeutic iron compounds to treat anemia and novel imaging agents to aid in the diagnosis of cancer and cardiovascular disease. We have two approved products, Feridex I.V.® and GastroMARK®, and two product candidates, ferumoxytol and Combidex®.

RISK FACTORS

An investment in our securities involves a high degree of risk. In addition to the other information included in, or incorporated by reference into, this prospectus, you should carefully consider the risk factors discussed at "Item 1A. Risk Factors" contained in our Annual Report on Form 10-K for the fiscal year ended September 30, 2006, in other documents incorporated by reference herein and in any applicable prospectus supplement when determining whether or not to purchase the securities offered under this prospectus and the prospectus supplement.

RATIO OF EARNINGS TO COMBINED FIXED CHARGES AND PREFERENCE STOCK DIVIDENDS

The following table sets forth our ratio of earnings to combined fixed charges and preference stock dividends for the periods indicated:

Fiscal Year Ended September 30,					Six Months Ended March 31,
2002	2003	2004	2005	2006	2007
(a)	157.9x	(b)	(c)	(d)	(e)

(a) Earnings in fiscal 2002 were inadequate to cover combined fixed charges and preference dividends. The coverage deficiency was approximately $1.7 million.

(b) Earnings in fiscal 2004 were inadequate to cover combined fixed charges and preference dividends. The coverage deficiency was approximately $4.5 million.

(c) Earnings in fiscal 2005 were inadequate to cover combined fixed charges and preference dividends. The coverage deficiency was approximately $12.7 million.

(d) Earnings in fiscal 2006 were inadequate to cover combined fixed charges and preference dividends. The coverage deficiency was approximately $25.4 million.

(e) Earnings in the six months ended March 31, 2007 were inadequate to cover combined fixed charges and preference dividends. The coverage deficiency was approximately $17.6 million.

The ratios above were computed by dividing earnings by combined fixed charges and preference dividends. For this purpose, earnings consist of (a) pre-tax income (loss) from continuing operations before adjustment for minority interests in consolidated subsidiaries or income (loss) from equity investees, (b) fixed charges, including estimated interest associated with certain facility, equipment and vehicle leases, and (c) share of pre-tax losses of equity investees for which charges arising from guarantees are included in fixed charges. Fixed charges consist of that portion of rental expense associated with certain facility, equipment and vehicle leases considered to be a reasonable estimate of the interest factor. We did not pay or accrue any preference dividends for the periods presented.

USE OF PROCEEDS

Unless otherwise described in a prospectus supplement, we intend to use the net proceeds from the sale of the offered securities for general corporate purposes, which may include, but are not limited to, working capital, ongoing research and development activities and capital expenditures. Pending any specific utilization, the proceeds from the sale of the offered securities may be invested in a manner designed to ensure levels of liquidity which correspond to our current and foreseeable cash needs. Such investments may include, but not be limited to, short-term investments, including government bonds, or other interest-bearing investments.

DESCRIPTION OF OUR COMMON STOCK

We are authorized to issue up to 25,000,000 shares of common stock, $.01 par value per share.

This section describes the general terms of our common stock that we may offer from time to time. For more detailed information, a holder of our common stock should refer to our certificate of incorporation and our by-laws, copies of which are filed with the SEC as exhibits to the registration statement of which this prospectus is a part.

Holders of our common stock are entitled to one vote per share and vote together as a single class on all matters to be voted on by our stockholders. Pursuant to our certificate of incorporation, there are no cumulative voting rights in the election of directors. The approval of corporate actions may also require the approval of the holders of any series of our preferred stock. See "Description of Our Preferred Stock."

Our common stock will be the only type of our capital stock entitled to vote in the election and removal of directors and other matters presented to our stockholders from time to time, unless we issue voting preferred stock or our certificate of incorporation or the law requires otherwise.

Our common stockholders will be entitled to receive dividends and distributions declared by our board of directors, or board, to the extent permitted by outstanding series of preferred stock and by our certificate of incorporation. If a dividend is declared, it will be distributed pro rata to our common stockholders on a per share basis.

If we are liquidated or dissolved, our common stockholders will be entitled to receive our assets and funds available for distribution to common stockholders in proportion to the number of shares they hold. Our common stockholders may not receive any assets or funds until our creditors have been paid in full and the preferential or participating rights of our preferred stockholders, if any, have been satisfied.

Holders of our common stock will not have any preemptive, subscription or conversion rights with respect to shares of our common stock. We may issue additional shares of our common stock, if authorized by our board, without the common stockholders' approval, unless required by Delaware law or a stock exchange on which our securities are traded. The issuance of additional shares could have the effect of diluting any earnings per share and the book value per share of outstanding shares of common stock. If we receive the appropriate payment, shares of our common stock that we issue will be fully paid and nonassessable.

Reference is made to the applicable prospectus supplement relating to the common stock offered by that prospectus supplement for specific terms, including:

- amount and number of shares offered;
- the initial offering price, if any, and market price; and
- information with respect to dividends.

American Stock Transfer & Trust Company currently serves as the registrar and transfer agent of our common stock.

DESCRIPTION OF OUR PREFERRED STOCK

We are authorized to issue up to 2,000,000 shares of preferred stock, $.01 par value per share.

This section describes the general terms and provisions of our preferred stock that we may offer from time to time. The applicable prospectus supplement will describe the specific terms of the shares of preferred stock offered through that prospectus supplement. We will file a copy of the certificate of designation that contains the terms of each new series of preferred stock with the SEC each time we issue a new series of preferred stock, and these certificates of designation will be incorporated by reference into the registration statement of which this prospectus is a part. Each certificate of designation will establish the number of shares included in a designated series and fix the designation, powers, privileges, preferences and rights of the shares of each series as well as any applicable qualifications, limitations or restrictions. A holder of our preferred stock should refer to the applicable certificate of designation, our certificate of incorporation and the applicable prospectus supplement for more specific information.

Our board has been authorized, subject to limitations provided in our certificate of incorporation, to provide for the issuance of shares of our preferred stock in multiple series. As of the date of this prospectus, no series has been designated and no shares of our preferred stock are currently outstanding.

With respect to each series of our preferred stock, our board has the authority to fix, among other things, the following terms:

- the designation of the series,
- the number of shares within the series,
- whether the dividends are cumulative and, if cumulative, the dates from which dividends are cumulative,
- the rate of any dividends, any conditions upon which dividends are payable, and the dates of payment of dividends,
- whether the shares are redeemable, the redemption price and the terms of redemption,
- the amount payable to a holder for each share owned if we are dissolved or liquidated,
- whether the shares are convertible or exchangeable, the price or rate of exchange, and the applicable terms and conditions,
- any restrictions on issuance of shares in the same series or any other series, and
- the voting rights, if any, of the shares of the series.

Holders of our preferred stock will not have preemptive rights with respect to shares of our preferred stock. In addition, rights with respect to shares of our preferred stock will be subordinate to the rights of our general creditors. If we receive the appropriate payment, shares of our preferred stock that we issue will be fully paid and nonassessable. The issuance of preferred stock could discourage an unsolicited acquisition proposal.

We currently plan to retain American Stock Transfer & Trust Company as the registrar and transfer agent of any series of our preferred stock.

DESCRIPTION OF OUR WARRANTS

This section describes the general terms and provisions of our warrants to acquire our securities that we may issue from time to time.

We may issue warrants for the purchase of our common stock or preferred stock. We may issue warrants independently or together with other securities, and they may be attached to or separate from the other securities. We will file a copy of the form of warrant agreement with the SEC each time we issue a series of warrants, and this warrant agreement will be incorporated by reference into the registration statement of which this prospectus is a part. A holder of our warrants should refer to the provisions of the applicable warrant agreement and prospectus supplement for more specific information.

The prospectus supplement relating to a particular issue of warrants will describe the terms of those warrants, including, where applicable:

- the offering price,
- the number of warrants offered,
- the securities underlying the warrants,
- the exercise price, the amount of securities you will receive upon exercise, the procedure for exercise of the warrants and the circumstances, if any, that will cause the warrants to be automatically exercised,
- the rights, if any, we have to redeem the warrants,
- the date on which the warrants will expire,
- U.S. federal income tax consequences,
- the name of any warrant agent, and
- any other terms of the warrants.

After warrants expire they will become void. All warrants will be issued in registered form. The prospectus supplement may provide for the adjustment of the exercise price of the warrants.

Warrants may be exercised at the appropriate office of the warrant agent or any other office indicated in the applicable prospectus supplement. Before the exercise of warrants, holders will not have any of the rights of holders of the securities purchasable upon exercise and will not be entitled to payments made to holders of those securities.

The warrant agreements may be amended or supplemented without the consent of the holders of the warrants to which they apply to effect changes that are not inconsistent with the provisions of the warrants and that do not materially and adversely affect the interests of the holders of the warrants. However, any amendment that materially and adversely alters the rights of the holders of warrants will not be effective unless the holders of at least a majority of the applicable warrants then outstanding approve the amendment. Every holder of an outstanding warrant at the time any amendment becomes effective, by continuing to hold the warrant, will be bound by the applicable warrant agreement as amended. The prospectus supplement applicable to a particular series of warrants may provide that certain provisions of the warrants, including the securities for which they may be exercisable, the exercise price and the expiration date, may not be altered without the consent of the holder of each warrant.

DESCRIPTION OF CERTAIN PROVISIONS OF DELAWARE LAW AND OUR CERTIFICATE OF INCORPORATION AND BY-LAWS

We are organized as a Delaware corporation. The following is a summary of our certificate of incorporation and by-laws and certain provisions of the Delaware General Corporation Law, or the DGCL. Because it is a summary, it does not contain all the information that may be important to you. If you want more information, you should read our entire certificate of incorporation and by-laws, copies of which are filed with the SEC as exhibits to the registration statement of which this prospectus is a part. See "Where You Can Find More Information," or refer to the provisions of Delaware law.

Classification of Directors

Our by-laws provide that, except as otherwise required by specific provisions of the certificate of incorporation relating to the rights of holders of any class or series of preferred stock to elect additional directors under specified circumstances, the number of our directors may be fixed from time to time by a resolution adopted by a majority of our board but must not be less than one. Our board is not classified into classes. A director may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, subject to the rights of any series of preferred stock then outstanding.

Special Meetings

Except as otherwise required by law and subject to the rights of holders of any class or series of preferred stock, special meetings of the stockholders may only be called by our President or by our board. No business other than that stated in the notice of meeting may be transacted at any special meeting of stockholders.

Limitation of Liability and Indemnification

Our certificate of incorporation provides that we shall indemnify our directors and officers to the fullest extent that Delaware law permits. Our certificate of incorporation also provides that we, by action of our board, may provide indemnification to our employees and agents with the same scope and effect as the indemnification of our officers and directors. Delaware law permits a corporation to indemnify any director, officer, employee or agent made or threatened to be made a party to any pending or completed proceeding if the person acted in good faith and in a manner that the person reasonably believed to be in the best interests of the corporation and, with respect to any criminal proceeding, had no reasonable cause to believe that his or her conduct was unlawful.

Our certificate of incorporation limits the liability of our directors to the fullest extent permitted by the DGCL. Delaware law provides that directors will not be personally liable for monetary damages for breach of their fiduciary duties as directors, except liability for:

- any breach of their duty of loyalty to the corporation or its stockholders,
- acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law,
- unlawful payments of dividends or unlawful stock repurchases or redemptions, or
- any transaction from which the director derived an improper personal benefit.

The effect of this provision may be to reduce the likelihood of derivative litigation against directors for breach of their duty of care, even though the action, if successful, might otherwise have benefited us and our stockholders. This provision has no effect on any non-monetary remedies that may be available to us or our stockholders, nor does it relieve us or our officers or directors from compliance with federal or state securities laws.

Each of our directors and executive officers is party to an indemnification agreement that provides specific contractual assurance that the indemnification protection promised by our certificate of incorporation will be available.

As permitted by our certificate of incorporation, we have purchased and maintain insurance on behalf of our directors and officers for any expense, liability or loss incurred by them arising out of their actions in that capacity if we would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions, the registrant has been informed that in the opinion of the SEC such indemnification is against public policy and is therefore unenforceable.

Section 203 of the Delaware General Corporation Law

Section 203 of the DGCL prohibits a defined set of transactions between a Delaware corporation, such as us, and an "interested stockholder." An interested stockholder is defined as a person who, together with any affiliates or associates of such person, beneficially owns, directly or indirectly, 15% or more of the outstanding voting stock of a Delaware corporation. This provision may prohibit business combinations between an interested stockholder and a corporation for a period of three years after the date the interested stockholder becomes an interested stockholder. The term "business combination" is broadly defined to include mergers, consolidations, sales or other dispositions of assets having a total value in excess of 10% of the consolidated assets of the corporation, and some other transactions that would increase the interested stockholder's proportionate share ownership in the corporation.

This prohibition is effective unless:

- either the business combination or the transaction that resulted in the interested stockholder becoming an interested stockholder is approved by our board prior to the time the interested stockholder becomes an interested stockholder,
- the interested stockholder owns at least 85% of our voting stock, other than stock held by directors who are also officers or by qualified employee stock plans, upon completion of the transaction in which it becomes an interested stockholder, or
- the business combination is approved by a majority of our board and by the affirmative vote of $66^{2}/_{3}$% of the outstanding voting stock that is not owned by the interested stockholder.

In general, the prohibitions do not apply to business combinations with persons who were interested stockholders prior to the corporation becoming subject to Section 203.

Stock Exchange Listing

Our common stock is listed on the Nasdaq Global Market. The trading symbol for our common stock is "AMAG."

PLAN OF DISTRIBUTION

We may sell the securities in and outside the United States (a) through underwriters or dealers, (b) directly to purchasers, including our affiliates, (c) through agents or (d) through a combination of any of these methods. The applicable prospectus supplement will include the following information:

- the terms of the offering,
- the names of any underwriters or agents,
- the name or names of any managing underwriter or underwriters,
- the purchase price of the securities,
- the net proceeds from the sale of the securities,
- any delayed delivery arrangements,
- any underwriting discounts, commissions and other items constituting underwriters' compensation;
- any initial public offering price,
- any discounts or concessions allowed or reallowed or paid to dealers, and
- any commissions paid to agents.

The sale of the securities may be effected in transactions (a) on any national or international securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, (b) in the over-the-counter market, (c) in transactions otherwise than on such exchanges or in the over-the-counter market or (d) through the writing of options.

The distribution of offered securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at market prices prevailing at the time of sale, at prices related to the market prices, or at negotiated prices.

Sale Through Underwriters or Dealers

If underwriters are used in the sale of any of these securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless we inform you otherwise in any prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. We may grant underwriters an option to purchase additional securities to cover over-allotment, if any, in connection with the distribution. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers.

During and after an offering through underwriters, the underwriters may purchase and sell the securities in the open market. These transactions may include overallotment and stabilizing transactions and purchases to cover syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, which means that selling concessions allowed to syndicate members or other broker-dealers for the offered securities sold for their account may be reclaimed by the syndicate if the offered securities are repurchased by the

syndicate in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the offered

securities, which may be higher than the price that might otherwise prevail in the open market. If commenced, the underwriters may discontinue these activities at any time.

Some or all of the securities that we offer though this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell these securities for public offering and sale may make a market in those securities, but they will not be obligated to and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities that we offer.

If dealers are used in the sale of securities, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. We will include in the prospectus supplement the names of the dealers and the terms of the transaction.

Direct Sales and Sales Through Agents

We may sell the securities directly, and not through underwriters or agents. We may also sell the securities through agents designated from time to time. In the prospectus supplement, we will name any agent involved in the offer or sale of the offered securities, and we will describe any commissions payable to the agent. Unless we inform you otherwise in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. We will describe the terms of any such sales in the prospectus supplement.

We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be identified in the applicable prospectus supplement (or a post-effective amendment).

Delayed Delivery Contracts

If we so indicate in the prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities from us at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The prospectus supplement will describe the commission payable for solicitation of those contracts.

General Information

We may have agreements with the agents, dealers and underwriters to indemnify them against certain civil liabilities, including liabilities under the Securities Act, or to contribute with respect to payments that the agents, dealers or underwriters may be required to make. Agents, dealers and underwriters may be customers of, engage in transactions with or perform services for us in the ordinary course of their businesses.

VALIDITY OF THE OFFERED SECURITIES

Certain legal matters with respect to the securities offered hereby have been passed upon by Sullivan & Worcester LLP, Boston, Massachusetts. As of the date of this prospectus, certain attorneys with the firm of Sullivan & Worcester LLP beneficially own an aggregate of approximately 700 shares of our common stock.

EXPERTS

The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this prospectus by reference to our Annual Report on Form 10-K for the year ended September 30, 2006 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered part of this prospectus. Statements in this prospectus regarding the contents of any contract or other document may not be complete. You should refer to the copy of the contract or other document filed as an exhibit to the registration statement. Later information filed with the SEC will update and supersede information we have included or incorporated by reference in this prospectus.

We incorporate by reference the documents listed below, which have been filed with the SEC:

1. Our Annual Report on Form 10-K for the fiscal year ended September 30, 2006;

2. Our Quarterly Report on Form 10-Q for the fiscal quarter ended December 31, 2006;

3. Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2007;

4. Our Current Reports on Form 8-K as filed on May 16, 2007 (as to Items 5.02 and 5.03 only), April 10, 2007, April 6, 2007, March 7, 2007, February 20, 2007, December 8, 2006, December 6, 2006, November 20, 2006 (as to Item 5.02 only) and November 13, 2006; and

5. The section entitled "Description of Registrant's Securities to be Registered" contained in our Registration Statement on Form 8-A as filed on June 26, 2006.

We also incorporate by reference any filings made after the date of the initial filing of the registration statement of which this prospectus forms a part made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until the offering of the securities made by this prospectus is completed or terminated.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon the written or oral request of that person, a copy of any and all of the information that has been incorporated in this prospectus by reference other than exhibits unless those exhibits are specifically incorporated by reference into the documents. Requests for these copies should be directed to our Investor Relations Department at the following address and telephone number: Advanced Magnetics, Inc., 125 CambridgePark Drive, 6th Floor, Cambridge, Massachusetts, 02140; (617) 498-3300.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the SEC. You may read and copy the reports, proxy statements and other information that we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for information about the operation of its Public Reference Room and for its prescribed rates to obtain copies of such material. The SEC also maintains an Internet site that contains reports, proxy and information statements and other information regarding registrants, like us, that file electronically with the SEC. The address of the SEC's Internet site is http://www.sec.gov. Our Internet site is http://www.advancedmagnetics.com. Information contained on our Internet site is not a part of this prospectus.

This prospectus provides you with a general description of the common stock, preferred stock and warrants being registered. This prospectus is part of a registration statement that we have filed with the SEC. To see more detail, you should read the registration statement and the exhibits and schedules filed with, or incorporated by reference into, our registration statement.