MEDICINES CO /DE
Form 424B5
January 16, 2007

The information in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and we are not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JANUARY 16, 2007

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-139987

PROSPECTUS SUPPLEMENT
(To Prospectus dated January 16, 2007)

6,000,000 Shares

Common Stock

The Medicines Company is offering 6,000,000 shares of its common stock.

Our common stock is quoted on the NASDAQ Global Select Market under the symbol MDCO. On January 12, 2007, the last reported sale price of our common stock on the NASDAQ Global Select Market was $33.75 per share. You are urged to obtain current market quotations for our common stock.

Investing in our common stock involves risks. See Risk Factors beginning on page S-12 of this prospectus supplement.

	Per Share	Total
Public offering price	$	$
Underwriting discounts and commissions	$	$
Proceeds, before expenses, to The Medicines Company	$	$

The Medicines Company has granted the underwriters the right to purchase up to an additional 900,000 shares of common stock from us at the public offering price, less underwriting discounts and commissions, within 30 days from the date of this prospectus supplement, to cover over-allotments.

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

The underwriters expect to deliver the shares to purchasers on or about , 2007.

Joint Book-Running Managers

Bear, Stearns & Co. Inc. **Merrill Lynch & Co.**

Pacific Growth Equities, LLC **RBC Capital Markets** **Leerink Swann & Company**

The date of this prospectus supplement is , 2007

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PROSPECTUS SUPPLEMENT

PROSPECTUS

You should rely only on the information contained or incorporated by reference in this prospectus supplement, the accompanying prospectus and any free writing prospectus we may authorize to be delivered to you. We have not authorized anyone to provide you with different information. 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 information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this common stock offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into the accompanying prospectus. The second part, the accompanying prospectus, gives more general information, some of which does not apply to this offering. You should read this prospectus supplement and the accompanying prospectus, including the information incorporated by reference and any free writing prospectuses we have authorized for use in connection with this offering, in their entirety before making an investment decision. Generally, when we refer to this prospectus, we are referring to both parts of this document combined.

If the description of this offering varies between this prospectus supplement and the accompanying prospectus, you should rely on the information contained in this prospectus supplement. However, 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 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.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere in this prospectus supplement and the accompanying prospectus or incorporated by reference in the accompanying prospectus. This summary does not contain all of the information you should consider before buying shares of our common stock. You should read the entire prospectus supplement and accompanying prospectus carefully, including the risks of investing in shares of our common stock that we describe under Risk Factors and our consolidated financial statements and the related notes and the other documents incorporated by reference in the accompanying prospectus, before deciding to invest in shares of our common stock. Unless the context requires otherwise, references to Medicines we, our and us in this prospectus supplement refers to The Medicines Company and its subsidiary.

The Medicines Company

Our Company

We are a pharmaceutical company committed to becoming a leading provider of innovative, cost effective acute care hospital products to the worldwide hospital marketplace. We have one marketed product, Angiomax® (bivalirudin), and two products in late-stage development, Cleviprex (clevidipine) and cangrelor, that we believe share common features valued by hospital practitioners, including a high level of pharmacological specificity, potency and predictability. We believe that Angiomax and our two product candidates possess favorable attributes that competitive products do not provide and can satisfy unmet medical needs in the acute care hospital product market and offer improved performance to hospital businesses.

Our first acute care hospital product, Angiomax, is an intravenous direct thrombin inhibitor approved for use as an anticoagulant in combination with aspirin in patients undergoing percutaneous coronary interventions, or PCI. PCI, which we also refer to as coronary angioplasty, is conducted to clear restricted blood flow in arteries around the heart. We are evaluating Angiomax for use in additional patient populations, including, in a Phase III trial, patients presenting with acute coronary syndromes, or ACS. Our revenues to date have been generated principally from sales of Angiomax in the United States. We reported net revenue of $153.5 million and net income of $9.5 million for the nine months ended September 30, 2006.

We are currently conducting Phase III clinical trials of Cleviprex and cangrelor as potential acute care hospital products. The first of these, Cleviprex, is an intravenous drug intended for the reduction and control of blood pressure in intensive care patients who require rapid and precise control of blood pressure. Our second product candidate, cangrelor, is an intravenous antiplatelet agent that is intended to prevent platelet activation and aggregation in the clotting process to reduce the risk of clot formation.

We currently focus our commercial and product development resources primarily on the U.S. acute care hospital market, which includes a concentration of hospitals that conduct a large percentage of acute care procedures in the United States. Our core strategy is to acquire, develop and commercialize products that we believe will help hospitals treat patients more efficiently by improving the effectiveness and safety of treatment while reducing cost. We believe that our ability to readily identify market needs and generate meaningful clinical data by investing aggressively in research and development enables us to successfully pursue this strategy. Our research and development investments are designed to provide clinical data that measure whether products:

- are effective, safe and predictable;
- enable shorter periods of treatment;
- are easier to use than current products;

- reduce the length of hospital stay; and
- lower hospital costs.

We believe that products with these attributes positively impact patient care and are attractive to the decision-makers who comprise our current and potential customers, including hospital management, physicians, hospital pharmacists, nurses and other care staff.

Angiomax

We exclusively licensed Angiomax from Biogen Idec Inc. in 1997 and we have exclusive license rights to develop, market and sell Angiomax worldwide. We received our first marketing approval from the U.S. Food and Drug Administration, or the FDA, in December 2000 for Angiomax for use as an anticoagulant in combination with aspirin in patients with unstable angina undergoing percutaneous transluminal coronary angioplasty, or PTCA. In June 2005, the FDA approved new prescribing information for Angiomax to also include patients undergoing PCI, in addition to those undergoing PTCA. In November 2005, the FDA approved the expansion of the label to include PCI patients with or at risk of heparin-induced thrombocytopenia and thrombosis syndrome, a complication of heparin administration known as HIT/HITTS that can result in limb amputation, renal failure and death. In September 2004, we received authorization from the European Commission to market Angiomax under the name Angiox® (bivalirudin) in the member states of the European Union for use as an anticoagulant in combination with aspirin in patients undergoing PCI. Angiomax is also approved for sale in Australia, Canada, New Zealand and countries in Central America, South America and the Middle East for indications similar to those approved by the FDA.

We believe that Angiomax has the potential to replace heparin, an anticoagulant that historically has been used in the United States, in the treatment of arterial thrombosis, a condition involving the formation of blood clots in arteries. Arterial thrombosis is associated with life-threatening conditions, such as ischemic heart disease, peripheral vascular disease and stroke. There are three main areas of the hospital where heparin is used for acute treatment of arterial thrombosis: the cardiac catheterization laboratory, where coronary angioplasties are performed; the emergency department, where patients with ACS, including chest pain and heart attacks, are initially treated; and the operating room, where valve replacement surgery and coronary artery bypass graft surgery, or CABG surgery, a procedure in which surgeons bypass a blockage in the patient s artery by grafting a vein to the artery on both sides of the blockage to restore blood flow around the obstruction, are performed.

We have invested significantly in the development of clinical data on the clinical effects of Angiomax in the treatment of PCI and ACS patients. In almost all of our investigations to date, we have compared Angiomax to heparin or enoxaparin, a low-molecular weight heparin, which until relatively recently were the only injectable anticoagulants for use in coronary angioplasty, or combinations of drugs including heparin. In total, we have tested Angiomax against heparin or enoxaparin or combinations of drugs including heparin or enoxaparin in 12 comparative PCI and ACS trials. In the pivotal PCI and ACS trials, Angiomax use resulted in rates of complications, such as heart attack, also known as myocardial infarction, or MI, that were comparable to the comparator drugs in the trials while resulting in fewer bleeding events, including a reduction in the need for blood transfusion, as compared to the comparator drugs in the trials. In addition, in these trials, the therapeutic effects of Angiomax have been shown to be more predictable than heparin.

To date, we have concentrated our commercial efforts on replacing heparin in the cardiac catheterization laboratory, where the PCI procedures for which Angiomax is approved, are performed. In evaluating our operating performance in the United States, we focus on use of Angiomax by existing hospital customers and penetration into new hospitals, both of which are critical elements of our ability to

increase market share and revenue. We believe that Angiomax was used in approximately 30% of the coronary angioplasty procedures conducted in the United States in 2005.

We market Angiomax to interventional cardiology customers for its approved uses in PCI, including in patients with HIT/HITTS. We market and sell Angiomax in the United States with a sales force of approximately 140 representatives and managers experienced in selling to hospital customers. In the European Union and other foreign jurisdictions, we sell Angiomax to third party-distributors that market and distribute the product to hospitals.

We are seeking to expand the indications for which we may market Angiomax. In December 2005, we completed patient enrollment in a 13,819 patient Phase III trial, called ACUITY, studying Angiomax use in patients presenting to the emergency department with ACS. We were testing whether Angiomax use is safe and effective in ACS patients when it is first administered in the emergency department at a lower dose than that which is currently used in PCI patients. If an emergency department ACS patient subsequently underwent PCI, the dose was increased to provide the usual anticoagulation during the procedure. Outcomes were also measured among ACS patients not undergoing PCI, namely, those medically managed or those who underwent CABG surgery. All of these emergency department ACS patients were randomized into one of three arms: a control arm, Arm A, providing for the administration of heparin or enoxaparin with glycoprotein IIb/IIIa, or GP IIb/IIIa, inhibitors, a type of intravenous platelet inhibitor; a second arm, Arm B, providing for the administration of Angiomax with planned use of GP IIb/IIIa inhibitors; and a third arm, Arm C, providing for the administration of Angiomax alone and permitting use of GP IIb/IIIa inhibitors only in selected cases involving ischemic events during PCI.

The 30-day patient results, which were presented in March 2006 by the principal investigators, showed that Angiomax met all primary and secondary pre-specified 30-day objectives for the ACUITY study. Specifically, in Arm C, the Angiomax monotherapy arm, Angiomax was effective and reduced the risk of major bleeding by 47% compared to the control arm, Arm A. In the Angiomax combination arm, Arm B, the Angiomax and GP IIb/IIIa combination was as effective, with similar reductions in bleeding, as the control arm. These results were published in The New England Journal of Medicine in November 2006.

The investigators continued to conduct the ACUITY trial in 2006 as they collected 12-month patient follow-up results following the completion of enrollment in December 2005. We expect these results to be reported by the investigators in the first half of 2007. If these results are favorable, we expect to submit a supplemental New Drug Application, or sNDA, to the FDA in the second half of 2007 seeking an expansion of the Angiomax product label to include the trial results and information about ACUITY maintenance dosing regimen starting in the emergency department.

In December 2005, we submitted an application to the FDA for approval to market Angiomax in patients with or at risk of HIT/HITTS undergoing cardiac surgery. In October 2006, we received a non-approvable letter from the FDA in connection with this application. In the letter, the FDA stated that it did not consider the data that we submitted in support of the application adequate to support approval for this indication because it did not consider the evidence used to qualify patients for inclusion in the trials that formed the basis for our application as a persuasive indicator for the risk of HIT/HITTS. We plan to discuss this matter with the FDA and evaluate potential next steps following that discussion.

We are also preparing to study Angiomax in the pediatric setting and are supporting an investigator-initiated trial called HORIZONS to study Angiomax use in adult acute myocardial infarction, or AMI, patients. HORIZONS is designed to evaluate whether Angiomax with permitted use of GPIIb/IIIa inhibitors is as safe and effective as heparin or enoxaparin with planned use of GPIIb/IIIa inhibitors in AMI patients. We believe that additional studies provide an important service by helping us to provide contemporary clinical data about the use of Angiomax, to answer specific questions about the use of Angiomax posed by the marketplace and to give us direction for future clinical trials.

Cleviprex

We are developing Cleviprex, an intravenous drug intended for the short-term reduction and control of blood pressure in the acute care setting when oral therapy is not desirable or feasible. We exclusively licensed Cleviprex in March 2003 from AstraZeneca AB. Under the terms of our agreement with AstraZeneca, we have exclusive license rights to develop, market and sell Cleviprex worldwide.

Cleviprex belongs to a well-known class of drugs, called calcium channel blockers, which are used to control high blood pressure. Cleviprex acts by selectively relaxing the smooth muscle cells that line small arteries, resulting in widening of the artery and reduction of blood pressure. We believe that Cleviprex may address an unmet need for rapid, precise control of patient blood pressure based on attributes demonstrated in clinical trials to date, namely rapid, titratable onset of effect on blood pressure, simple preparation and administration, arterial selectivity and metabolism independent of organ function.

We are developing Cleviprex in a clinical trial program comprised of six Phase III clinical trials. We completed two Phase III efficacy clinical trials of Cleviprex, which we refer to as the ESCAPE trials. The ESCAPE trials were designed to evaluate the effectiveness of Cleviprex in controlling blood pressure before and after cardiac surgery compared to a placebo control. Results in both trials met the protocol-defined objective, as measured by rates of treatment success, which was defined as at least 15% reduction in blood pressure without the need to use an alternate drug. We have also completed three Phase III clinical trials, which we refer to as the ECLIPSE trials, to evaluate the safety of Cleviprex in approximately 1,600 patients in comparison to sodium nitroprusside, nicardipine and nitroglycerine, three leading blood pressure reducing agents, before, during and following cardiac surgery. Results in all three trials met the protocol-defined objectives, which included primary objectives measured by the incidences of death, stroke, myocardial infarction and renal dysfunction, and secondary objectives involving the evaluation of adverse experiences with Cleviprex and its blood pressure lowering effect. We expect to complete enrollment of patients in our sixth Phase III clinical trial of Cleviprex in January 2007. In this trial, which we refer to as the VELOCITY trial, we are evaluating Cleviprex in 100 patients with severe hypertension in an acute care setting. We plan to submit a New Drug Application, or NDA, to the FDA in the first half of 2007 for approval to market Cleviprex in patients receiving an intravenous antihypertensive in the acute care setting when oral therapy is not desirable or feasible. We expect to submit an application for marketing approval in the European Union within one year of submitting the NDA in the United States.

We plan to expand our U.S. sales force by between approximately 50 and 100 persons commencing three to six months before the potential launch of Cleviprex. We believe that an expanded sales force would enable us to sell Cleviprex efficiently to hospital customers, including to Angiomax customers, if Cleviprex is approved by the FDA for sale in the United States. We also intend in 2007, in preparation for the potential launch of Cleviprex, to continue manufacturing scale-up for Cleviprex and to conduct Phase IIIb trials of Cleviprex in neurology and cardiology and a health economics study.

Cangrelor

We are developing cangrelor, a short-acting injectable antiplatelet agent that is designed to prevent platelet activation and aggregation in the clotting process. Cangrelor is designed to bind directly to the P2Y12 receptor, a receptor that has been implicated in platelet aggregation. We exclusively licensed cangrelor in December 2003 from AstraZeneca. Under the terms of our agreement with AstraZeneca, we have exclusive license rights to develop, market and sell cangrelor worldwide, excluding Japan, China, Korea, Taiwan and Thailand.

We are developing cangrelor for potential use as an intravenous antiplatelet agent in the acute care settings of the cardiac catheterization laboratory. Based on input from our hospital customers in the cardiac catheterization laboratory, we believe that the acute care limitations of current oral therapy, such as clopidogrel, the leading oral P2Y12 receptor antiplatelet agent, which include delayed onset, prolonged

effect and unpredictable effect, have created a need for an intravenous platelet inhibitor that acts quickly, is cleared from the bloodstream rapidly and enables rapid recovery of platelet function. We believe that pre-clinical studies and clinical studies conducted in approximately 500 patients to date suggest that cangrelor has these attributes. These clinical studies consist of Phase II clinical trials of cangrelor conducted by AstraZeneca prior to licensing this product candidate to us, and a 40-person clinical trial that we conducted in healthy volunteers to identify a dosing strategy for use of cangrelor. Specifically, in these studies, cangrelor demonstrated:

- an immediate inhibitory effect on platelets;
- an inhibitory effect on platelet activation and aggregation that is proportional to the dose administered;
- inhibitory effects that are sustainable through the period of infusion;
- a plasma half-life of less than five minutes; and
- platelet function recovery in less than an hour.

We are currently evaluating cangrelor s effectiveness and safety in preventing ischemic events in patients who require PCI in two separate Phase III clinical trials. The larger trial, which we refer to as the CHAMPION-PCI trial and for which we commenced enrollment in March 2006, is an approximately 9,000-patient trial designed to evaluate whether use of intravenous cangrelor is superior to use of eight 75mg clopidrogrel tablets in patients undergoing PCI. This dose of multiple tablets is referred to as pre-loading. The primary composite endpoint of the CHAMPION-PCI trial will measure death, MI, or urgent revascularization at 48 hours after the procedure. Patients in this trial may be treated with other intravenous anticoagulants, such as Angiomax, heparin and GP IIb/IIIa inhibitors, at the investigator s discretion.

The second trial, which we refer to as the CHAMPION-PLATFORM trial and for which we commenced enrollment in October 2006, compares cangrelor plus usual care to placebo plus usual care in patients who require PCI. We currently expect to enroll between 4,400 and 6,000 patients in this trial. This trial will measure the composite endpoint of death, MI, or urgent revascularization at 48 hours after the procedure. The FDA has recommended that we use an alternative statistical design for this trial. We plan to discuss the statistical design with the FDA before we finalize the statistical design and before we complete the first interim analysis of this trial.

There were approximately 2,000 patients enrolled in CHAMPION-PCI and 150 patients enrolled in CHAMPION-PLATFORM at the end of 2006. We plan to enroll in excess of 8,000 patients in these trials in 2007 and expect to complete patient enrollment in both trials in 2008. If we complete these trials on a timely basis and the results of these trials are favorable, we anticipate making submissions for marketing approvals in the United States and the European Union in 2008.

Business Development

We anticipate expanding our portfolio of acute care hospital products. We believe we can acquire or license both early and late-stage products that we can develop and sell to hospital customers that satisfy their existing and evolving needs. We have assembled an experienced business development team that supports our efforts through intense data analysis designed to enable us to make efficient and informed decisions about pursuing business development opportunities. We believe our success in developing and marketing Angiomax provides us with a competitive advantage in identifying and securing future acquisition and licensing opportunities.

Financial Results Update

We expect to report net revenue of approximately $60.3 million for the three months ended December 31, 2006 and net revenue of approximately $213.9 for the year ended December 31, 2006.

In order to support the continued development of Angiomax, Cleviprex and cangrelor, we expect our research and development expense to increase in 2007 from 2006 anticipated levels. We expect our research and development expense to be between approximately $77 million and $81 million in 2007, with the increase being primarily attributable to costs associated with enrollment of our ongoing Phase III clinical trials for cangrelor, the 9,000 patient CHAMPION- PCI trial and the 4,400 to 6,000 patient CHAMPION-PLATFORM trial, and additional manufacturing development costs for Cleviprex and cangrelor. We expect sales, general and administrative expenses to increase in 2007 from 2006 anticipated levels to between approximately $88 million and $92 million primarily due to Cleviprex-related pre-launch expenditures, continued promotional spending on Angiomax marketing and increased sales force compensation. We also expect total stock-based compensation expense to increase in 2007 from 2006 anticipated levels to between approximately $16 million and $17 million in 2007 as a result of our higher stock price and anticipated stock option grants to new and current employees. We have not included stock-based compensation expense in the research and development and sales, general and administrative expense amounts discussed in this paragraph.

Our Corporate Information

We were incorporated in Delaware on July 31, 1996. Our principal executive offices are located at 8 Campus Drive, Parsippany, NJ 07054, and our telephone number is (973) 656-1616. Our web site address is *www.themedicinescompany.com*. The information contained on, or that can be accessed through, our web site is not incorporated by reference into this prospectus supplement. We have included our web site address as a factual reference and do not intend it to be an active link to our web site.

The Medicines Company® name and logo, Angiomax®, Angiox® and Cleviprex are either registered trademarks or trademarks of The Medicines Company in the United States and/or other countries. All other trademarks, service marks or other tradenames appearing in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in the accompanying prospectus are the property of their respective owners. Except where otherwise indicated, or where the context may otherwise require, references to Angiomax in this prospectus supplement mean Angiomax and Angiox collectively.

The Offering

Common stock offered by The Medicines Company	6,000,000 shares
Common stock to be outstanding after this offering	57,227,313 shares
Use of proceeds	For potential acquisitions of, or investments in, companies, technologies, products or assets and for general corporate purposes, including sales and marketing, clinical development activities and manufacturing scale-up of our products in development. See Use of Proceeds.
NASDAQ Global Select Market symbol	MDCO

The foregoing information is based on the number of shares outstanding as of December 31, 2006. This number does not take into account:

- 6,753,407 shares of common stock reserved for issuance pursuant to outstanding stock options as of such date at a weighted average exercise price of $21.21 per share; and

- 4,404,363 shares of common stock reserved for future grant or issuance under our stock plans as of such date.

In addition, except as otherwise noted, all information in this prospectus supplement assumes no exercise of the underwriters over-allotment option.

Summary Consolidated Financial Information

The tables below present our summary consolidated statement of operations and balance sheet data. We have derived our consolidated statement of operations data for the fiscal years ended December 31, 2005, 2004 and 2003 from our audited consolidated financial statements and the accompanying notes which are included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2005, which is incorporated by reference in the accompanying prospectus. We have derived our consolidated balance sheet data as of September 30, 2006 and our consolidated statement of operations data for each of the nine-month periods ended September 30, 2006 and 2005 from our unaudited consolidated financial statements which are included in our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2006, which is incorporated by reference in the accompanying prospectus. The unaudited consolidated financial statements include, in our opinion, all adjustments (consisting only of normal recurring adjustments) that are necessary for a fair presentation of our financial position and results of operations for these periods. Operating results for the nine months ended September 30, 2006 are not necessarily indicative of the results that may be expected for the fiscal year ending December 31, 2006 or any future periods. You should read the summary consolidated financial data set forth below in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes which are incorporated by reference in the accompanying prospectus.

	Nine Months Ended September 30,		Year Ended December 31,		
	2006	2005	2005	2004	2003
	(in thousands, except share and per share data)				
Statements of Operations Data					
Net revenue	$ 153,595	$ 118,086	$ 150,207	$ 144,251	$ 85,591
Operating expenses:					
Cost of revenue	38,291	27,701	34,762	29,123	22,749
Research and development	44,393	51,428	64,389	49,290	35,905
Selling, general and administrative	65,965	44,526	63,053	50,275	45,082
Total operating expenses	148,649	123,655	162,204	128,688	103,736
(Loss)/income from operations	4,946	(5,569)	(11,997)	15,563	(18,145)
Other income/(expense), net	4,907	3,030	4,344	2,126	1,403
Provision for income taxes	(380)	(104)	(100)	(690)	(128)
Net (loss)/income	9,473	(2,643)	(7,753)	16,999	(16,870)
Net (loss)/ earnings attributable to common stockholders	$ 9,473	$ (2,643)	$ (7,753)	$ 16,999	$ (16,870)
Basic (loss)/ earnings per common share	$ 0.19	$ (0.05)	$ (0.16)	$ 0.36	$ (0.37)
Shares used in computing basic (loss)/ earnings per common share	50,116,387	49,349,230	49,442,603	47,855,484	45,624,289
Diluted (loss)/ earnings per common share	$ 0.19	$ (0.05)	$ (0.16)	$ 0.34	$ (0.37)
Shares used in computing diluted (loss)/ earnings per common share	50,779,433	49,349,230	49,442,603	49,772,314	45,624,289

The as adjusted balance sheet data set forth below gives effect to the sale by us in this offering of 6,000,000 shares of common stock at an assumed public offering price per share of $33.75, after deducting estimated underwriting discounts and commissions and all estimated offering expenses that are payable by us.

	As of September 30, 2006	
	Actual	As Adjusted
	(in thousands)	
Balance Sheet Data		
Cash and cash equivalents, available for sale securities and accrued interest receivable	$ 177,800	$ 368,159
Working capital	199,274	389,633
Total assets	244,303	434,662
Accumulated deficit	(295,426)	(295,426)
Total stockholders equity	199,863	390,222

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the following risk factors and all other information contained or incorporated by reference in this prospectus supplement or the accompanying prospectus before making an investment decision. Any one or more of the following risks could materially adversely affect your investment in our common stock or our business, financial condition, results of operations and prospects.

Risks Related to Our Financial Results

We have a history of net losses and may not maintain profitability on an annual basis

Except for the year ended December 31, 2004, we have incurred net losses on an annual basis since our inception. As of September 30, 2006, we had an accumulated deficit of approximately $295.4 million. We expect to make substantial expenditures to further develop and commercialize our products, including costs and expenses associated with clinical trials, regulatory approvals and commercialization. Although we achieved profitability in 2004 and in the quarters ended June 30, 2006 and September 30, 2006, we were not profitable in 2005 or the quarter ended March 31, 2006 and will likely need to generate significantly greater revenue in future periods to achieve and maintain profitability in light of our planned expenditures. We may not achieve profitability when we expect to, or at all, and we may not be able to maintain profitability for any substantial period of time. If we fail to achieve profitability or maintain profitability on a quarterly or annual basis within the time frame expected by investors or securities analysts, the market price of our common stock may decline.

Our business is very dependent on the commercial success of Angiomax

Angiomax is our only commercial product. We expect Angiomax will account for almost all of our revenue for at least 2007. The commercial success of Angiomax will depend upon:

- its continued acceptance by regulators, physicians, patients and other key decision-makers as a safe, therapeutic and cost-effective alternative to heparin and other products used in current practice or currently being developed;

- our ability to expand the indications for which we can market Angiomax and the clinical data we generate to support expansion of the product label; and

- the extent to which we and our international distributors are successful in marketing Angiomax.

We plan to continue in 2007 to seek to expand the indications for which we may market Angiomax. Even if we are successful in expanding the Angiomax label, we cannot assure you that the expanded label will result in higher revenue or income on a continuing basis. If Angiomax is not commercially successful, we will have to find additional sources of funding or curtail operations. As of September 30, 2006, our inventory was $35.2 million and in the fourth quarter of 2006 we fulfilled inventory-related purchase commitments to Lonza Braine S.A. totaling $10.4 million. In addition, we have inventory-related purchase commitments to Lonza Braine totaling $15.6 million during 2007 and $4.3 million during 2008 for Angiomax bulk drug substance and $1.9 million in remaining Angiomax-related filling, finishing and packaging commitments during 2007. If sales of Angiomax were to decline, we could be required to make an allowance for excess or obsolete inventory or increase our accrual for product returns.

Our revenue is substantially dependent on a limited number of domestic wholesalers and international distributors to which we sell Angiomax, and such revenue may fluctuate from quarter to quarter based on the buying patterns of these wholesalers and distribution partners and the levels of inventory they maintain

We sell Angiomax to a limited number of domestic medical and pharmaceutical wholesalers with distribution centers located throughout the United States and several international distributors. During the

quarter ended September 30, 2006, revenue from the sale of Angiomax to our three largest U.S. wholesalers totaled approximately 89% of our net revenue and sales to one of our international distributors totaled approximately 4% of our net revenue. Our reliance on a small number of wholesalers and distributors could cause our revenue to fluctuate from quarter to quarter based on the buying patterns of these wholesalers and distributors, regardless of underlying hospital demand. For instance, because an order from Nycomed, one of our European distributors, was not recognized in the quarter ended March 31, 2006 due to a delay in Nycomed s acceptance of the order, our revenue for the first quarter of 2006 was reduced.

In addition, if inventory levels at wholesalers and distributors become too high, they may seek to reduce their inventory levels by reducing purchases from us. In 2005, we agreed with our largest wholesalers to enter into fee-for-service arrangements. As a result of these restructured arrangements, we estimate that our three largest wholesalers reduced aggregate Angiomax inventory levels to an average of four to six weeks as of the end of the first quarter of 2006. In implementing the inventory reduction, we estimate that our three largest wholesalers reduced their aggregate inventories of Angiomax by approximately $39.0 million over the last two quarters of 2005 and the first quarter of 2006 combined, which had an adverse effect on our revenue. Our fee-for-service arrangements with wholesalers may be terminated on short notice, generally 30 days. In addition, if any of these wholesalers or distributors fail to pay us on a timely basis or at all, our financial position and results of operations could be materially adversely affected.

Failure to achieve our revenue targets or raise additional funds in the future may require us to delay, reduce the scope of, or eliminate one or more of our planned activities

We will need to generate significantly greater revenue to achieve and maintain profitability on an annual basis. The development of Angiomax for additional indications, the development of Cleviprex and cangrelor, including clinical trials, manufacturing development and regulatory approvals, and the acquisition and development of additional product candidates by us will require a commitment of substantial funds. Our future funding requirements, which may be significantly greater than we expect, will depend upon many factors, including:

- the extent to which Angiomax is commercially successful in the United States;
- the extent to which our international distributors, including Nycomed, are commercially successful;
- the progress, level and timing of our research and development activities related to our clinical trials with respect to Angiomax, Cleviprex and cangrelor;
- the cost and outcomes of regulatory submissions and reviews;
- the continuation or termination of third-party manufacturing or sales and marketing arrangements;
- the size, cost and effectiveness of our sales and marketing programs;
- the status of competitive products;
- our ability to defend and enforce our intellectual property rights; and
- the establishment of additional strategic or licensing arrangements with other companies, or acquisitions.

If our existing resources are insufficient to satisfy our liquidity requirements due to slower than anticipated sales of Angiomax or otherwise, or if we acquire additional product candidates or businesses, or if we otherwise believe that raising additional capital would be in our interest and the interests of our stockholders, we may sell equity or debt securities or seek additional financing through other arrangements. Any sale of additional equity or debt securities may result in dilution to our stockholders,

and debt financing may involve covenants limiting or restricting our ability to take specific actions, such as incurring additional debt or making capital expenditures. We cannot be certain that public or private financing will be available in amounts or on terms acceptable to us, if at all. If we seek to raise funds through collaboration or licensing arrangements with third parties, we may be required to relinquish rights to products, product candidates or technologies that we would not otherwise relinquish or grant licenses on terms that may not be favorable to us. If we are unable to obtain additional financing, we may be required to delay, reduce the scope of, or eliminate one or more of our planned research, development and commercialization activities, which could harm our financial condition and operating results.

Risks Related to Commercialization

Angiomax competes with all categories of anticoagulant drugs, which may limit the use of Angiomax

Because different anticoagulant drugs act on different components of the clotting process, we believe that continued clinical work will be necessary to determine the best combination of drugs for clinical use. We recognize that Angiomax competes with other anticoagulant drugs to the extent Angiomax and any of these anticoagulant drugs are approved for the same or similar indications.

In addition, other anticoagulant drugs may compete with Angiomax for hospital financial resources. For example, many U.S. hospitals receive a fixed reimbursement amount per procedure for the angioplasties and other treatment therapies they perform. Because this amount is not based on the actual expenses the hospital incurs, hospitals may choose to use either Angiomax or other anticoagulant drugs, but not necessarily several of the drugs together.

Because the market for thrombin inhibitors is competitive, our product may not obtain widespread use

We have positioned Angiomax as a replacement for heparin, which is a widely used, inexpensive, generic drug used in patients with arterial thrombosis. Because heparin is inexpensive and has been widely used for many years, physicians and medical decision-makers may be hesitant to adopt Angiomax. In addition, due to the high incidence and severity of cardiovascular diseases, competition in the market for thrombin inhibitors is intense and growing. We cannot assure you that the rate of Angiomax sales growth will not slow or decline in 2007 and future years. There are a number of direct and indirect thrombin inhibitors currently on the market, awaiting regulatory approval and in development, including orally administered agents. The thrombin inhibitors on the market include products for use in the treatment of patients with HIT/HITTS, patients with unstable angina and patients with deep vein thrombosis.

We face substantial competition, which may result in others discovering, developing or commercializing competing products before or more successfully than we do

Our industry is highly competitive. Our success will depend on our ability to acquire and develop products and apply technology, and our ability to establish and maintain markets for our products. Potential competitors in the United States and other countries include major pharmaceutical and chemical companies, specialized pharmaceutical companies and biotechnology firms, universities and other research institutions. Many of our competitors have substantially greater research and development capabilities and experience, and greater manufacturing, marketing and financial resources, than we do. Accordingly, our competitors may develop or license products or other novel technologies that are more effective, safer, more convenient or less costly than existing products or technologies or products or technologies that are being developed by us or may obtain regulatory approvals for products more rapidly than we are able. Technological development by others may render our products or product candidates noncompetitive. We may not be successful in establishing or maintaining technological competitiveness.

Near-term growth in our sales of Angiomax is dependent on acceptance by physicians, patients and other key decision-makers of Angiomax clinical data

In the fall of 2002, we completed a 6,002 patient post-marketing Phase IIIb/IV clinical trial of Angiomax in coronary angioplasty called REPLACE-2. In November 2002, the principal investigators of the REPLACE-2 trial announced that, based on 30-day patient follow-up results, Angiomax met all of the primary and secondary objectives of the trial. In March 2003, we released the results of the detailed cost analysis study to examine per-patient total hospital resource consumption at U.S. clinical trial sites. In September 2003, the principal investigators of the clinical trial announced that, based on six-month patient follow-up results, Angiomax again met all of the primary and secondary objectives of the trial. In November 2003, the principal investigators presented one-year follow-up mortality data from the trial, which confirmed the 30-day and six-month mortality results. In December 2005, we completed enrollment in a 13,819 patient Phase III clinical trial studying Angiomax use in patients presenting to the emergency department with acute coronary syndromes called the ACUITY trial. In March 2006, the principal investigators of the ACUITY trial announced that ACUITY had met its objectives in favor of Angiomax based on 30-day patient results. The investigators for the ACUITY trial have continued to conduct the trial as they collect 12-month patient follow-up results. We expect these results to be reported by the investigators in the first half of 2007. These results may not meet the trial objectives or be consistent with the 30-day results.

We believe that the near-term commercial success of Angiomax will depend upon the extent to which physicians, patients and other key decision-makers accept the results of the Angiomax clinical trials. For example, since the original results of REPLACE-2 were announced in 2002, additional hospitals have granted Angiomax formulary approval and hospital demand for the product has increased. We cannot be certain, however, that these trends will continue. Some commentators have challenged various aspects of the trial design of REPLACE-2, the conduct of the study and the analysis and interpretation of the results from the study, including how we define bleeding and the clinical relevance of types of ischemic events. The FDA has noted that in its view, statistical non-inferiority was not demonstrated as compared to the heparin plus a GP IIb/IIIa inhibitor arm of the trial for the 30-day ischemic endpoint in the REPLACE-2 trial. Similarly, we cannot be certain of the extent to which physicians, patients and other key decision-makers will accept the results of the ACUITY trial. If physicians, patients and other key decision-makers do not accept the REPLACE-2 and ACUITY trial results, adoption of Angiomax may suffer, and our business will be materially adversely affected.

Our ability to generate future revenue from products will be affected by reimbursement and drug pricing

Acceptable levels of reimbursement of drug treatments by government authorities, private health insurers and other organizations will have an effect on our ability to successfully commercialize, and attract collaborative partners to invest in the development of, product candidates. We cannot be sure that reimbursement in the United States or elsewhere will be available for any products we may develop or, if already available, will not be decreased in the future. If reimbursement is not available or is available only to limited levels, we may not be able to commercialize our products, or may not be able to obtain a satisfactory financial return on our products.

In certain countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals and the level of reimbursement are subject to governmental control. In some countries, it can take an extended period of time to establish and obtain reimbursement, and reimbursement approval may be required at the individual patient level, which can lead to further delays.

Third-party payers increasingly are challenging prices charged for medical products and services. Also, the trend toward managed health care in the United States and the changes in health insurance programs, as well as legislative proposals, may result in lower prices for pharmaceutical products, including any

products that may be offered by us. Cost-cutting measures that health care providers are instituting, and the effect of any health care reform, could materially adversely affect our ability to sell any products that are successfully developed by us and approved by regulators. Moreover, we are unable to predict what additional legislation or regulation, if any, relating to the health care industry or third-party coverage and reimbursement may be enacted in the future or what effect such legislation or regulation would have on our business.

We could be exposed to significant liability if we are unable to obtain insurance at acceptable costs and adequate levels or otherwise protect ourselves against potential product liability claims

Our business exposes us to potential product liability risks which are inherent in the testing, manufacturing, marketing and sale of human healthcare products. Product liability claims might be made by patients in clinical trials, consumers, health care providers or pharmaceutical companies or others that sell our products. These claims may be made even with respect to those products that are manufactured in licensed and regulated facilities or otherwise possess regulatory approval for commercial sale.

These claims could expose us to significant liabilities that could prevent or interfere with the development or commercialization of our products. Product liability claims could require us to spend significant time and money in litigation or pay significant damages. With respect to our commercial sales and our clinical trials, we are covered by products liability insurance in the amount of $20.0 million per occurrence and $20.0 million annually in the aggregate on a claims-made basis. This coverage may not be adequate to cover any product liability claims.

As we continue to commercialize our products, we may wish to increase our product liability insurance. Product liability coverage is expensive. In the future, we may not be able to maintain or obtain such product liability insurance on reasonable terms, at a reasonable cost or in sufficient amounts to protect us against losses due to product liability claims.

Risks Related to Regulatory Approval of Our Product Candidates

If we do not obtain regulatory approvals for our product candidates we will not be able to market our product candidates and our ability to generate additional revenue could be materially impaired

Except for Angiomax, which has been approved for sale in the United States for use as an anticoagulant in combination with aspirin in patients with unstable angina undergoing PCI and patients undergoing PCI with or at risk of HIT/HITTS, and which has been approved for sale in the European Union and in other countries for indications similar to those approved by the FDA, we do not have any other product approved for sale in the United States or any foreign market. We must obtain approval from the FDA in order to sell our product candidates in the United States and from foreign regulatory authorities in order to sell our product candidates in other countries. Securing regulatory approval requires the submission of extensive pre-clinical and clinical data, information about product manufacturing processes and inspection of facilities and supporting information to the regulatory authorities for each therapeutic indication to establish the product s safety and efficacy. If we are unable to submit the necessary data and information, for example, because the results of clinical trials are not favorable, or if the FDA delays reviewing or does not approve our applications, we will be unable to obtain regulatory approval. Delays in obtaining or failure to obtain regulatory approvals may:

- delay or prevent the successful commercialization of any of our product candidates;
- diminish our competitive advantage; and
- defer or decrease our receipt of revenue.

The regulatory review and approval process to obtain marketing approval for a new drug takes many years and requires the expenditure of substantial resources. This process can vary substantially based on

the type, complexity, novelty and indication of the product candidate involved. The regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that data is insufficient for approval and require additional pre-clinical, clinical or other studies. In addition, varying interpretations of the data obtained from pre-clinical and clinical testing could delay, limit or prevent regulatory approval of a product candidate.

We cannot expand the indications for which we are marketing Angiomax unless we receive FDA approval for each additional indication. Failure to expand these indications will limit the size of the commercial market for Angiomax

The FDA has approved Angiomax for use as an anticoagulant in combination with aspirin in patients with unstable angina undergoing PCI and patients undergoing PCI with or at risk of HIT/HITTS. One of our key objectives is to expand the indications for which Angiomax is approved for marketing by the FDA. In order to market Angiomax for expanded indications, we will need to conduct appropriate clinical trials, obtain positive results from those trials and obtain FDA approval for such proposed indications. Obtaining FDA approval is uncertain, time-consuming and expensive. For example, we recently received a non-approvable letter from the FDA in connection with our application to market Angiomax in patients with or at risk of HIT/HITTS undergoing cardiac surgery. While we plan to discuss the matter with the FDA, the FDA may require additional studies which may require the expenditure of substantial resources. Even if any such studies are undertaken, we can provide no assurance that we will be successful in obtaining regulatory approval for this indication in a timely manner or at all. Also, if the one-year results of the ACUITY trial are favorable, we currently anticipate submitting an application with the FDA in 2007 for an expansion of the Angiomax product label to include information about ACUITY maintenance dosing regimen starting in the emergency department and the trial results. If the one-year results are not favorable, however, we are unlikely to be able to seek or obtain FDA approval to expand the Angiomax product label. If we are unsuccessful in expanding the Angiomax product label, the size of the commercial market for Angiomax will be limited.

Clinical trials of product candidates are expensive and time-consuming, and the results of these trials are uncertain

Before we can obtain regulatory approvals to market any product for a particular indication, we will be required to complete pre-clinical studies and extensive clinical trials in humans to demonstrate the safety and efficacy of such product for such indication.

Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. Success in pre-clinical testing or early clinical trials does not ensure that later clinical trials will be successful, and interim results of a clinical trial do not necessarily predict final results. An unexpected result in one or more of our clinical trials can occur at any stage of testing. We may experience numerous unforeseen events during, or as a result of, the clinical trial process that could delay or prevent us from receiving regulatory approval or commercializing our products, including:

- our clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials;

- data obtained from pre-clinical testing and clinical trials may be subject to varying interpretations, which could result in the FDA or other regulatory authorities deciding not to approve a product in a timely fashion, or at all;

- the cost of clinical trials may be greater than we currently anticipate;

- any regulatory approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the product commercially non-viable;

- regulators or institutional review boards may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;

- we, or the FDA, might suspend or terminate a clinical trial at any time on various grounds, including a finding that participating patients are being exposed to unacceptable health risks; and

- the effects of our product candidates may not be the desired effects or may include undesirable side effects or the product candidates may have other unexpected characteristics.

The rate of completion of clinical trials depends in part upon the rate of enrollment of patients. Patient enrollment is a function of many factors, including the size of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial, the existence of competing clinical trials and the availability of alternative or new treatments. In particular, the patient population targeted by some of our clinical trials may be small. Delays in patient enrollment in any of our current or future clinical trials may result in increased costs and program delays.

If we or our contract manufacturers fail to comply with the extensive regulatory requirements to which we, our contract manufacturers and our products are subject, our products could be subject to restrictions or withdrawal from the market and we could be subject to penalties

The testing, manufacturing, labeling, advertising, promotion, distribution, export, and marketing, among other things, of our products, both before and after approval, are subject to extensive regulation by governmental authorities in the United States, Europe and elsewhere throughout the world. Our failure or the failure of our contract manufacturers to comply with the laws administered by the FDA, the European Medicines Agency, or other governmental authorities could result in, among other things, any of the following:

- delay in approving or refusal to approve a product;

- product recall or seizure;

- interruption of production;

- operating restrictions;

- warning letters;

- injunctions;

- criminal prosecutions; and

- unanticipated expenditures.

Both before and after approval of a product, quality control and manufacturing procedures must conform to current good manufacturing practice, or cGMP. Regulatory authorities, including the FDA, periodically inspect manufacturing facilities to assess compliance with cGMP. Accordingly, we and our contract manufacturers will need to continue to expend time, monies, and effort in the area of production and quality control to maintain cGMP compliance.

Risks Related to our Dependence on Third Parties for Manufacturing, Research and Development and Distribution Activities

We depend on single suppliers for the production of Angiomax, Cleviprex and cangrelor bulk drug substance and different single suppliers to carry out all fill-finish activities

We do not manufacture any of our products and do not plan to develop any capacity to manufacture them. We currently obtain all of our Angiomax bulk drug substance from one manufacturer, Lonza Braine,

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and rely on another manufacturer, Ben Venue Laboratories, to carry out all fill-finish activities for Angiomax, which includes final formulation and transfer of the drug into vials where it is then freeze-dried and sealed. The terms of our agreement with Lonza Braine require us to purchase from Lonza Braine a substantial portion of our Angiomax bulk drug product manufactured using the Chemilog process, a chemical synthesis process that we developed with UCB Bioproducts S.A., the predecessor to Lonza Braine.

We currently obtain all of our Cleviprex bulk drug substance from one manufacturer, Johnson Matthey Pharma Services. We rely on a different single supplier, Hospira, Inc., and its proprietary formulation technology, for the manufacture of all finished Cleviprex product, as well as for release testing and clinical packaging.

We have transferred the manufacturing process for all of our cangrelor bulk drug substance from AstraZeneca to Johnson Matthey Pharma Services for scale up and manufacture for Phase III clinical trials and commercial supplies. We will also rely on a different single supplier, Baxter Pharmaceutical Solutions LLC, for the manufacture of all finished cangrelor drug product for all Phase III clinical trials and to carry out release testing.

There are a limited number of manufacturers capable of manufacturing Angiomax, Cleviprex and cangrelor. We do not currently have alternative sources for production of bulk drug substance or to carry out fill-finish activities. Consolidation within the pharmaceutical manufacturing industry could further reduce the number of manufacturers capable of producing our products, or otherwise affect our existing contractual relationships.

In the event that Lonza Braine, Johnson Matthey, Hospira, Ben Venue or Baxter is unable or unwilling to carry out their respective manufacturing obligations or terminates or refuses to renew its supply arrangements with us, we may be unable to obtain alternative manufacturing, or obtain such manufacturing on commercially reasonable terms or on a timely basis. If we were required to transfer manufacturing processes to other third-party manufacturers, we would be required to satisfy various regulatory requirements, which could cause us to experience significant delays in receiving an adequate supply of Angiomax, Cleviprex or cangrelor. Moreover, we may not be able to transfer processes that are proprietary to the manufacturer. Any delays in the manufacturing process may adversely impact our ability to meet commercial demands for Angiomax on a timely basis and supply product for clinical trials of Angiomax, Cleviprex or cangrelor.

The development and commercialization of our products may be terminated or delayed, and the costs of development and commercialization may increase, if third parties on whom we rely to manufacture and support the development and commercialization of our products do not fulfill their obligations

Our development and commercialization strategy involves entering into arrangements with corporate and academic collaborators, contract research organizations, distributors, third-party manufacturers, licensors, licensees and others to conduct development work, manage or conduct our clinical trials, manufacture our products and market and sell our products outside of the United States. We do not have the expertise or the resources to conduct such activities on our own and, as a result, are particularly dependent on third parties in most areas.

We may not be able to maintain our existing arrangements with respect to the commercialization or manufacture of Angiomax or establish and maintain arrangements to develop and commercialize Cleviprex, cangrelor or any additional product candidates or products we may acquire on terms that are acceptable to us. Any current or future arrangements for development and commercialization may not be successful. If we are not able to establish or maintain agreements relating to Angiomax, Cleviprex, cangrelor or any additional products we may acquire on terms that we deem favorable, our results of operations would be materially adversely affected.

Third parties may not perform their obligations as expected. The amount and timing of resources that third parties devote to developing, manufacturing and commercializing our products are not within our control. Our collaborators may develop, manufacture or commercialize, either alone or with others, products and services that are similar to or competitive with the products that are the subject of the collaboration with us. Furthermore, our interests may differ from those of third parties that manufacture or commercialize our products. Our collaborators may re-evaluate their priorities from time to time, including following mergers and consolidations, and change the focus of their development, manufacturing or commercialization efforts. Disagreements that may arise with these third parties could delay or lead to the termination of the development or commercialization of our product candidates, or result in litigation or arbitration, which would be time consuming and expensive.

If any third party that manufactures or supports the development or commercialization of our products breaches or terminates its agreement with us, or fails to commit sufficient resources to our collaboration or conduct its activities in a timely manner, or fails to comply with regulatory requirements, such breach, termination or failure could:

- delay or otherwise adversely impact the manufacturing, development or commercialization of Angiomax, Cleviprex, cangrelor or any additional products that we may acquire or develop;

- require us to seek a new collaborator or undertake unforeseen additional responsibilities or devote unforeseen additional resources to the manufacturing, development or commercialization of our products; or

- result in the termination of the development or commercialization of our products.

Use of third-party manufacturers may increase the risk that we will not have appropriate supplies of our product candidates

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates or products ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance;

- the possible breach of the manufacturing agreement by the third party; and

- the possible termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us.

Angiomax and our product candidates may compete with products and product candidates of third parties for access to manufacturing facilities. If we are not able to obtain adequate supplies of Angiomax, Cleviprex and cangrelor, it will be more difficult for us to compete effectively and develop our product candidates.

Our contract manufacturers are subject to ongoing, periodic, unannounced inspection by the FDA and corresponding state and foreign agencies or their designees to ensure strict compliance with the FDA s cGMP, regulations and other governmental regulations and corresponding foreign standards. We cannot be certain that our present or future manufacturers will be able to comply with cGMP regulations and other FDA regulatory requirements or similar regulatory requirements outside the United States. We do not control compliance by our contract manufacturers with these regulations and standards. Failure of our third-party manufacturers or us to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approval of our product candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of Angiomax and our product candidates.

Risks Related to our Intellectual Property

A breach of any of the agreements under which we license commercialization rights to products or technology from others could cause us to lose license rights that are important to our business or subject us to claims by our licensors

We license rights to products and technology that are important to our business, and we expect to enter into additional licenses in the future. For instance, we have exclusively licensed patents and patent applications relating to Angiomax from Biogen Idec and Health Research Inc. and relating to Cleviprex and cangrelor from AstraZeneca. Under these agreements, we are subject to commercialization and development, sublicensing, royalty, patent prosecution and maintenance, insurance and other obligations. For instance, we are required under our license of Cleviprex to submit an NDA for Cleviprex by September 30, 2007 and under our license of cangrelor to submit an NDA for cangrelor by December 31, 2008. Any failure by us to comply with any of these obligations or any other breach by us of our license agreements could give the licensor the right to terminate the license in whole, terminate the exclusive nature of the license or bring a claim against us for damages. Any such termination or claim, particularly relating to our agreements with Biogen Idec and Health Research Inc., could have a material adverse effect on our business. We have entered into an agreement with Biogen Idec that suspends the statute of limitations relating to any claims for damages and/or license termination that they may bring in the event that a dispute arises between us and Biogen Idec relating to the late filing of our application under the Hatch Waxman Act for an extension of the term of the principal patent that covers Angiomax. Even if we contest any such termination or claim and are ultimately successful, our stock price could suffer. In addition, upon any termination of a license agreement, we may be required to license to the licensor any related intellectual property that we developed.

If we are unable to obtain or maintain patent protection for the intellectual property relating to our products, the value of our products will be adversely affected

The patent positions of pharmaceutical companies like us are generally uncertain and involve complex legal, scientific and factual issues. Our success depends significantly on our ability to:

- obtain and maintain U.S. and foreign patents, including defending those patents against adverse claims;
- protect trade secrets;
- operate without infringing the proprietary rights of others; and
- prevent others from infringing our proprietary rights.

We may not have any additional patents issued from any patent applications that we own or license. If additional patents are granted, the claims allowed may not be sufficiently broad to protect our technology. In addition, issued patents that we own or license may be challenged, narrowed, invalidated or circumvented, which could limit our ability to stop competitors from marketing similar products or limit the length of term of patent protection we may have for our products. Changes in patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property or narrow the scope of our patent protection.

Our patents also may not afford us protection against competitors with similar technology. Because patent applications in the United States and many foreign jurisdictions are typically not published until eighteen months after filing, or in some cases not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors can be certain that others have not filed or maintained patent applications for technology used by us or covered by our pending patent applications without our being aware of these applications.

We exclusively license U.S. patents, patent applications and patent rights and corresponding foreign patents, patent applications and patent rights relating to Angiomax, Cleviprex and cangrelor. We exclusively license six issued U.S. patents relating to Angiomax, three issued U.S. patents relating to Cleviprex and the rights relating to cangrelor under five issued U.S. patents. We have not yet filed any independent patent applications. The principal U.S. patent that covers Angiomax expires in 2010. The U.S. Patent and Trademark Office, or PTO, has rejected our application under the Hatch Waxman Act for an extension of the term of the patent beyond 2010 because the application was not filed on time by our counsel. We are exploring alternatives to extend the term of the patent, but we can provide no assurance that we will be successful. On December 6, 2006, the United States House of Representatives passed a bill that, if enacted, would have provided the PTO with discretion to consider patent extension applications filed late unintentionally under the Hatch Waxman Act. On December 9, 2006, the United States Senate adjourned without considering this bill. We are hopeful that Congress will consider similar legislation in the current session. We can provide no assurance that a bill will be introduced or enacted or that, if it is enacted, the PTO will consider our application or that we will be successful in extending the term of the patent. We have entered into agreements with the counsel involved in the late filing that suspend the statute of limitations on our claims against them for failing to make a timely filing. We have entered into a similar agreement with Biogen Idec relating to any claims for damages and/or license termination they may bring in the event that a dispute arises between us and Biogen Idec relating to the late filing. These agreements may be terminated by either party upon 30 days notice. We cannot assure you that Biogen Idec will not terminate this agreement.

We may be unable to utilize the Chemilog process if Lonza Braine breaches our agreement

Our agreement with Lonza Braine for the supply of Angiomax bulk drug substance requires that Lonza Braine transfer the technology that was used to develop the Chemilog process to a secondary supplier of Angiomax bulk drug substance or to us or an alternate supplier at the expiration of the agreement. If Lonza Braine fails or is unable to transfer successfully this technology, we would be unable to employ the Chemilog process to manufacture our Angiomax bulk drug substance, which could cause us to experience delays in the manufacturing process and increase our manufacturing costs in the future.

If we are not able to keep our trade secrets confidential, our technology and information may be used by others to compete against us

We rely significantly upon unpatented proprietary technology, information, processes and know-how. We seek to protect this information by confidentiality agreements with our employees, consultants and other third-party contractors, as well as through other security measures. We may not have adequate remedies for any breach by a party to these confidentiality agreements. In addition, our competitors may learn or independently develop our trade secrets. If our confidential information or trade secrets become publicly known, they may lose their value to us.

If we infringe or are alleged to infringe intellectual property rights of third parties, it will adversely affect our business

Our research, development and commercialization activities, as well as any product candidates or products resulting from these activities, may infringe or be claimed to infringe patents or patent

applications under which we do not hold licenses or other rights. Third parties may own or control these patents and patent applications in the United States and abroad. These third parties could bring claims against us or our collaborators that would cause us to incur substantial expenses and, if successful against us, could cause us to pay substantial damages. Further, if a patent infringement suit were brought against us or our collaborators, we or they could be forced to stop or delay research, development, manufacturing or sales of the product or product candidate that is the subject of the suit.

As a result of patent infringement claims, or in order to avoid potential claims, we or our collaborators may choose or be required to seek a license from the third party and be required to pay license fees or royalties or both. These licenses may not be available on acceptable terms, or at all. Even if we or our collaborators were able to obtain a license, the rights may be nonexclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we or our collaborators are unable to enter into licenses on acceptable terms. This could harm our business significantly.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the pharmaceutical and biotechnology industries. In addition to infringement claims against us, we may become a party to other patent litigation and other proceedings, including interference proceedings declared by the PTO and opposition proceedings in the European Patent Office, regarding intellectual property rights with respect to our products and technology. The cost to us of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

Risks Related to Growth and Employees

If we fail to acquire and develop additional product candidates or approved products it will impair our ability to grow

We have a single product, Angiomax, approved for marketing. In order to generate additional revenue, we intend to acquire and develop additional product candidates or approved products. The success of this growth strategy depends upon our ability to identify, select and acquire pharmaceutical products that meet the criteria we have established. Because we neither have, nor intend to establish, internal scientific research capabilities, we are dependent upon pharmaceutical and biotechnology companies and other researchers to sell or license product candidates to us. We will be required to integrate any acquired products into our existing operations. Managing the development of a new product entails numerous financial and operational risks, including difficulties in attracting qualified employees to develop the product.

Any product candidate we acquire will require additional research and development efforts prior to commercial sale, including extensive pre-clinical and/or clinical testing and approval by the FDA and corresponding foreign regulatory authorities. All product candidates are prone to the risks of failure inherent in pharmaceutical product development, including the possibility that the product candidate will not be safe and effective or approved by regulatory authorities.

In addition, we cannot assure you that any approved products that we develop or acquire will be:

- manufactured or produced economically;
- successfully commercialized; or

- widely accepted in the marketplace.

We have previously acquired rights to products and, after having conducted development activities, determined not to devote further resources to those products. We cannot assure you that any additional products that we acquire will be successfully developed.

In addition, proposing, negotiating and implementing an economically viable acquisition is a lengthy and complex process. Other companies, including those with substantially greater financial, marketing and sales resources, may compete with us for the acquisition of product candidates and approved products. We may not be able to acquire the rights to additional product candidates and approved products on terms that we find acceptable, or at all.

We may undertake strategic acquisitions in the future and any difficulties from integrating such acquisitions could damage our ability to attain or maintain profitability

We may acquire additional businesses and products that complement or augment our existing business. Integrating any newly acquired business or product could be expensive and time-consuming. We may not be able to integrate any acquired business or product successfully or operate any acquired business profitably. Moreover, we may need to raise additional funds through public or private debt or equity financing to acquire any businesses or products, which may result in dilution for stockholders or the incurrence of indebtedness.

We may not be able to manage our business effectively if we are unable to attract and retain key personnel and consultants

Our industry has experienced a high rate of turnover of management personnel in recent years. We are highly dependent on our ability to attract and retain qualified personnel for the acquisition, development and commercialization activities we conduct or sponsor. If we lose one or more of the members of our senior management, including our Chairman and Chief Executive Officer, Clive A. Meanwell, or our President and Chief Operating Officer, John P. Kelley, or other key employees or consultants, our ability to implement successfully our business strategy could be seriously harmed. Our ability to replace these key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to acquire, develop and commercialize products successfully. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate such additional personnel.

Risks Related to Our Common Stock and This Offering

Fluctuations in our operating results could affect the price of our common stock

Our operating results may vary from period to period based on factors including the amount and timing of sales of Angiomax, underlying hospital demand for Angiomax, our wholesalers buying patterns, the timing, expenses and results of clinical trials, announcements regarding clinical trial results and product introductions by us or our competitors, the availability and timing of third-party reimbursement, including in Europe, sales and marketing expenses and the timing of regulatory approvals. If our operating results do not meet the expectations of securities analysts and investors as a result of these or other factors, the trading price of our common stock will likely decrease.

Our stock price has been and may in the future be volatile. This volatility may make it difficult for you to sell common stock when you want or at attractive prices

Our common stock has been and in the future may be subject to substantial price volatility. From January 1, 2005 to January 12, 2007, the last reported sale price of our common stock ranged from a high

of $36.18 per share to a low of $15.92 per share. The value of your investment could decline due to the effect of any of the following factors upon the market price of our common stock:

- changes in securities analysts estimates of our financial performance;
- changes in valuations of similar companies;
- variations in our operating results;
- acquisitions and strategic partnerships;
- announcements of technological innovations or new commercial products by us or our competitors;
- disclosure of results of clinical testing or regulatory proceedings by us or our competitors;
- the timing, amount and receipt of revenue from sales of our products and margins on sales of our products;
- governmental regulation and approvals;
- developments in patent rights or other proprietary rights;
- changes in our management; and
- general market conditions.

In addition, the stock market has experienced significant price and volume fluctuations, and the market prices of specialty pharmaceutical companies have been highly volatile. Moreover, broad market and industry fluctuations that are not within our control may adversely affect the trading price of our common stock. You must be willing to bear the risk of fluctuations in the price of our common stock and the risk that the value of your investment in our securities could decline.

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 any particular purpose for any specific amount of net proceeds from this offering. 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.

The large number of shares that may be sold in the market following this offering of shares of common stock may depress the market price of our common stock

Sale or issuance of a substantial number of shares of our common stock could cause the market price of our common stock to decline. All of the shares of common stock we are offering in this offering will be freely tradable without restriction or further registration under the Securities Act of 1933, as amended. In addition, as of December 31, 2006, there were approximately 6.8 million shares of common stock issuable upon exercise of options granted by us, which also have been registered for resale on registration statements filed with the SEC. In connection with this offering, our executive officers and directors holding an aggregate of approximately 369,000 shares of our common stock and the right to acquire an additional 2.8 million shares of our common stock have agreed, subject to certain exceptions, not to sell or transfer any common stock until 90 days after the date of this prospectus supplement.

Our corporate governance structure, including provisions in our certificate of incorporation and by-laws and Delaware law, may prevent a change in control or management that security holders may consider desirable

Section 203 of the General Corporation Law of the State of Delaware and our certificate of incorporation and by-laws contain provisions that might enable our management to resist a takeover of our company or discourage a third party from attempting to take over our company. These provisions include the inability of stockholders to act by written consent or to call special meetings, a classified board of directors and the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval.

These provisions could have the effect of delaying, deferring, or preventing a change in control of us or a change in our management that stockholders may consider favorable or beneficial. These provisions could also discourage proxy contests and make it more difficult for stockholders to elect directors and take other corporate actions. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock or our other securities.

FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents we incorporate by reference in the accompanying prospectus include forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this prospectus supplement, the accompanying prospectus and the documents we incorporate by reference in the accompanying prospectus regarding our strategy, future operations, financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words anticipates, believes, estimates, expects, intends, may, plans, projects, will, would and similar expressions are intended forward-looking statements, although not all forward-looking statements contain these identifying words.

Our forward-looking statements are subject to a number of known and unknown risks and uncertainties, many of which are beyond our control. Although we believe these statements are accurate, we cannot guarantee future results, levels of activity, performance or achievements, and you should not place undue reliance on our forward-looking statements. Our actual results could differ materially from the results discussed in our forward-looking statements. Many important factors could cause or contribute to these differences, including but not limited to the factors referred to under the heading Risk Factors. We do not assume any obligation to update any forward-looking statements.

USE OF PROCEEDS

We estimate that our net proceeds from the sale of the 6,000,000 shares of common stock offered by us at an assumed public offering price of $33.75 per share, the last reported sale price of our common stock on the NASDAQ Global Select Market on January 12, 2007, will be approximately $190.4 million after deducting estimated underwriting discounts and commissions and all estimated offering expenses that are payable by us. If the underwriters exercise the over-allotment option in full, we estimate that our net proceeds will be approximately $219.0 million. A $1.00 increase (decrease) in the assumed public offering price per share of our common stock would increase (decrease) the estimated net proceeds that we receive from this offering by approximately $5.7 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus supplement, does not change.

We anticipate using the net proceeds from this offering for potential acquisitions of, or investments in, companies, technologies, products or assets and for general corporate purposes, including sales and marketing, clinical development activities and manufacturing scale-up of our products in development.

We have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion in the allocation and timing of the use of the net proceeds from this offering. We have no current commitments or agreements with respect to any acquisitions or investments and may not make any acquisitions or investments. Pending the application of the net proceeds, we intend to invest the net proceeds in investment grade and U.S. government securities.

PRICE RANGE OF COMMON STOCK

Our common stock is quoted on the NASDAQ Global Select Market under the symbol MDCO. The following table sets forth, for the periods indicated, the range of high and low sale prices per share of our common stock, as reported on the NASDAQ Global Select Market.

	Common Stock Price	
	High	Low
Year Ended December 31, 2005		
First Quarter	$ 29.95	$ 20.70
Second Quarter	24.95	20.83
Third Quarter	24.55	20.13
Fourth Quarter	23.70	15.50
Year Ended December 31, 2006		
First Quarter	22.00	16.54
Second Quarter	21.34	16.81
Third Quarter	23.25	18.28
Fourth Quarter	36.18	22.05
Year Ending December 31, 2007		
First Quarter (through January 12, 2007)	34.73	30.44

On January 12, 2007, the last reported sale price of our common stock on the NASDAQ Global Select Market was $33.75 per share. As of the close of business on December 29, 2006, we had approximately 193 holders of record of our common stock.

DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock. We anticipate that we will retain all of our future earnings, if any, for use in the expansion and operation of our business and do not anticipate paying cash dividends in the foreseeable future. Payment of future dividends, if any, will be at the discretion of our board of directors.

CAPITALIZATION

The following table sets forth the following information:

- our actual capitalization as of September 30, 2006; and

- our capitalization as adjusted to give effect to the sale by us of 6,000,000 shares of common stock at the assumed public offering price of $33.75 per share in the offering, after deducting estimated underwriting discounts and commissions and all estimated offering expenses payable by us.

	As of September 30, 2006	
	Actual	As Adjusted
	(in thousands, except share data)	
Cash and cash equivalents, marketable securities and accrued interest receivable(1)	$ 177,800	$ 368,159
Stockholders equity:		
Preferred Stock, $1.00 par value per share, 5,000,000 shares authorized; no shares issued and outstanding		
Common Stock, $0.001 par value per share, 125,000,000 shares authorized; 50,658,992 shares issued and outstanding, actual; 56,658,992 shares issued and outstanding, as adjusted	51	57
Additional paid-in capital(1)	495,209	685,562
Accumulated deficit	(295,426)	(295,426)
Accumulated other comprehensive income/(loss)	29	29
Total stockholders equity(1)	199,863	390,222
Total capitalization(1)	$ 199,863	$ 390,222

(1) A $1.00 increase (decrease) in the assumed public offering price per share of common stock would increase (decrease) each of cash and cash equivalents, marketable securities and accrued interest receivable, additional paid-in capital, total stockholders equity and total capitalization by approximately $5.7 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus supplement, does not change.

This table excludes the following shares as of September 30, 2006:

- 7,221,444 shares of common stock reserved for issuance pursuant to outstanding stock options at a weighted average exercise price of $20.97 per share; and

- 4,548,595 shares of common stock reserved for future grant or issuance under our stock plans.

UNDERWRITING

Bear, Stearns & Co. Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in a underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
Bear, Stearns & Co. Inc.	
Merrill Lynch, Pierce, Fenner & Smith Incorporated	
Pacific Growth Equities, LLC	
RBC Capital Markets Corporation	
Leerink Swann & Co., Inc.	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer s certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the initial public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. The underwriters may allow, and the dealers may reallow, a discount not in excess of $ per share to other dealers. After the public offering, the public offering price, concession and discount may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their overallotment option.

	Per Share	Without Option	With Option
Public offering price			
Underwriting discount			
Proceeds, before expenses, to us			

The expenses of the offering, not including the underwriting discount, are estimated at $700,000 and are payable by us.

Overallotment Option

We have granted an option to the underwriters to purchase up to 900,000 additional shares at the public offering price, less the underwriting discount. The underwriters may exercise this option for 30 days from the date of the prospectus solely to cover any overallotments. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter s initial amount reflected in the above table.

No Sales of Similar Securities

We and our executive officers and directors have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 90 days after the date of this prospectus without first obtaining the written consent of Bear, Stearns & Co. Inc. and Merrill Lynch, Pierce, Fenner & Smith Incorporated. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell or contract to sell any common stock;
- sell any option or contract to purchase any common stock;
- purchase any option or contract to sell any common stock;
- grant any option, right or warrant for the sale of any common stock;
- lend or otherwise dispose of or transfer any common stock;
- request or demand that we file a registration statement related to the common stock; or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

The lock-up agreement does not apply to:

- the exercise of any option or warrant to purchase shares of common stock or the acquisition of common stock pursuant to our employee stock purchase plan, provided that the underlying common stock continues to be subject to the lock up restrictions;
- transfers as a bona fide gift or gifts, provided that the donee or donees thereof agree to be bound in writing by the lock-up restrictions;
- transfers to any trust for the direct or indirect benefit of the person signing the lock-up agreement or the immediate family of that person, provided that the trustee of the trust agrees to be bound in writing by the lock-up restrictions, and that any such transfer does not involve a disposition for value;
- transfers of 6,000 shares of our common stock pursuant to a 10b5-1 trading plan adopted prior to the date of this prospectus supplement by one of our directors;

- transfers of up to 100,923 shares of our common stock pursuant to a pre-paid variable forward sales contract entered into on August 19, 2004 by Clive Meanwell, our Chairman and Chief Executive Officer, expected to settle on February 20, 2007;

- transfers with the prior written consent of Bear, Stearns & Co. Inc. and Merrill Lynch, Pierce, Fenner and Smith Incorporated; and

- with respect to us, the issuance of up to 5,000,000 shares of common stock pursuant to strategic alliances, licenses or acquisition agreements that we may enter into after the date of this prospectus supplement, provided that the parties to any such agreements agree to the restrictions set forth above.

Quotation on the NASDAQ Global Select Market

The shares are quoted on the NASDAQ Global Select Market under the symbol MDCO.

Price Stabilization, Short Positions

Until the distribution of the shares is completed, Securities and Exchange Commission rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. Covered short sales are sales made in an amount not greater than the underwriters option to purchase additional shares in the offering. The underwriters may close out any covered short position by either exercising their overallotment option or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the overallotment option. Naked short sales are sales in excess of the overallotment option. 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 our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of the offering.

Similar to other purchase transactions, the underwriters purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Passive Market Making

In connection with this offering, underwriters and selling group members may engage in passive market making transactions in the common stock on the NASDAQ Global Select Market in accordance with Rule 103 of Regulation M under the Exchange Act during a period before the commencement of offers or sales of common stock and extending through the completion of distribution. A passive market

maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker s bid, that bid must then be lowered when specified purchase limits are exceeded.

Electronic Offer, Sale and Distribution of Shares

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail. In addition, Merrill Lynch, Pierce, Fenner & Smith Incorporated will be facilitating Internet distribution for this offering to certain of its Internet subscription customers. Merrill Lynch, Pierce, Fenner & Smith Incorporated intends to allocate a limited number of shares for sale to its online brokerage customers. An electronic prospectus is available on the Internet web site maintained by Merrill Lynch, Pierce, Fenner & Smith Incorporated. Other than the prospectus in electronic format, the information on the Merrill Lynch, Pierce, Fenner & Smith Incorporated web site is not part of this prospectus.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us. They have received customary fees and commissions for these transactions.

Selling Restrictions

European Economic Area

In relation to each member state of the European Economic Area which has implemented the Prospectus Directive, which we refer to as a Relevant Member State, with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, which we refer to as the Relevant Implementation Date, no shares have been offered or will be offered to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive, except that, with effect from and including the Relevant Implementation Date, offers of shares may be made to the public in that Relevant 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;

- 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

- 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 this provision, the expression an offer of shares to the public in relation to any shares in any Relevant 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 for the shares, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State, and the expression Prospectus Directive means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

United Kingdom

Our common stock may not be offered or sold and will not be offered or sold to any persons in the United Kingdom other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses and in compliance with all applicable provisions of the Financial Services and Markets Act 2000, or the FSMA, with respect to anything done in relation to our common stock in, from or otherwise involving the United Kingdom. In addition, each underwriter has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us. Without limitation to the other restrictions referred to herein, this prospectus is directed only at (1) persons outside the United Kingdom, (2) persons having professional experience in matters relating to investments who fall within the definition of investment professionals in Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005; or (3) high net worth bodies corporate, unincorporated associations and partnerships and trustees of high value trusts as described in Article 49(2) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005. Without limitation to the other restrictions referred to herein, any investment or investment activity to which this prospectus relates is available only to, and will be engaged in only with, such persons, and persons within the United Kingdom who receive this communication (other than persons who fall within (2) or (3) above) should not rely or act upon this communication.

Transfer Agent and Registrar

American Stock Transfer & Trust Company, 59 Maiden Lane, New York, New York 10038 is the transfer agent for our common stock.

LEGAL MATTERS

Certain legal matters with respect to the validity of the shares of common stock offered will be passed upon for us by Wilmer Cutler Pickering Hale and Dorr LLP, Boston, Massachusetts. Certain legal matters in connection with this offering will be passed upon for the underwriters by Shearman & Sterling LLP, New York, New York.

This prospectus relates to an effective registration statement under the Securities Act of 1933, but is not complete. You should refer to the accompanying prospectus supplement or other accompanying offering material for additional important information.

Common Stock

This prospectus relates to shares of our common stock that we may offer and sell at prices and on terms to be determined at or prior to the time of the offering. We will provide you with the specific terms of any offering in one or more supplements to this prospectus. We may sell the common stock to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continued or delayed basis.

Our common stock is quoted on the NASDAQ Global Select Market under the symbol MDCO. On January 12, 2007, the last reported sale price of our common stock on the NASDAQ Global Select Market was $33.75 per share. You are urged to obtain current market quotations for our common stock.

Investing in our common stock involves risks. See Risk Factors on page 1.

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

The date of the prospectus is January 16, 2007.

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In this prospectus, the terms we, our, and us refer to The Medicines Company and its subsidiaries, unless otherwise specified. You should rely only on the information contained or incorporated by reference in this prospectus, any applicable prospectus supplement and any free writing prospectus we may authorize to be delivered to you. We have not authorized anyone to provide you with different information. 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 information contained in this prospectus, the accompanying prospectus supplement and the documents incorporated by reference herein and therein is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf registration process, we may from time to time sell shares of our common stock in one or more offerings. Each time we sell securities under this shelf registration process, we will provide a prospectus supplement that will contain specific information about the terms of the offering. We may also add, update or change in the prospectus supplement any of the information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus and the prospectus supplement, you should rely on the information in the 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 this prospectus or any prospectus supplement the statement in the document having the later date modifies or supersedes the earlier statement.

As permitted by the rules and regulations of the SEC, the registration statement, of which this prospectus forms a part, includes additional information not contained in this prospectus. You may read the registration statement and the other reports we file with the SEC at the SEC s web site or at the SEC s offices described below under the heading Where You Can Find More Information.

RISK FACTORS

Investing in our common stock involves significant risks. Please see the risk factors under the heading Risk Factors in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2006 on file with the SEC, which are incorporated by reference in this prospectus. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus and any prospectus supplement. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations.

FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the documents we incorporate by reference into this prospectus and any prospectus supplement include forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included or incorporated in this prospectus or any prospectus supplement regarding our strategy, future operations, financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words anticipates, believes, estimates, expects, intends, may, plans, projects, will, would and similar expressions are intended to ide forward-looking statements, although not all forward-looking statements contain these identifying words.

Our forward-looking statements are subject to a number of known and unknown risks and uncertainties, many of which are beyond our control. Although we believe these statements are accurate, we cannot guarantee future results, levels of activity, performance or achievements, and you should not place undue reliance on our forward-looking statements. Our actual results could differ materially from the results discussed in our forward-looking statements. Many important factors could cause or contribute to these differences, including but not limited to the factors referred to under the heading Risk Factors. These important factors include the factors that we identify in the documents that we incorporate by reference in this prospectus. We do not assume any obligation to update any forward-looking statements.

USE OF PROCEEDS

Unless otherwise provided in the applicable prospectus supplement, we currently intend to use the net proceeds from the sale of the shares of common stock under this prospectus for general corporate purposes, including sales and marketing, clinical trials and supply of our products, and for potential acquisition of, or investment in, companies, technologies, products or assets that complement our business. We will set forth in a prospectus supplement relating to a specific offering our intended use for the net proceeds received from the sale of securities in that offering. Pending the application of the net proceeds, we intend to invest the net proceeds in investment grade and U.S. government securities.

LEGAL MATTERS

Certain legal matters with respect to the validity of the shares of common stock offered by this prospectus will be passed upon for us by Wilmer Cutler Pickering Hale and Dorr LLP, Boston, Massachusetts.

EXPERTS

The consolidated financial statements of The Medicines Company appearing in our annual report on Form 10-K for the year ended December 31, 2005, including the schedule appearing therein, and The Medicines Company management s assessment of the effectiveness of internal control over financial reporting as of December 31, 2005 included therein, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein and incorporated herein by reference. Such consolidated financial statements and management s assessment are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other documents with the SEC under the Securities Exchange Act of 1934, as amended, or the Exchange Act. You may read and copy any document we file at the SEC s public reference room at 100 F Street, N.E., Washington, D.C. 20549. You should call 1-800-SEC-0330 for more information on the public reference room. The SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. Our SEC filings are available to you on the SEC s Internet site at http://www.sec.gov.

Our internet address is www.themedicinescompany.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports are also available to you free of charge through the Investor Relations section of our website as soon as reasonably practicable after those materials have been electronically filed with, or furnished to, the SEC. Other than the documents filed with the SEC and incorporated by reference into this prospectus, the information contained on our website does not constitute a part of this prospectus.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and our common stock, including certain exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC s internet site.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC requires us to incorporate into this prospectus information that we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents

that contain that information. The information incorporated by reference is considered to be part of this prospectus. Information that we file with the SEC in the future and incorporate by reference in this prospectus automatically updates and supersedes previously filed information as applicable. The following documents filed with the SEC pursuant to the Exchange Act are incorporated herein by reference:

(1) Our Annual Report on Form 10-K for the year ended December 31, 2005 (File No. 000-31191);

(2) Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2006, June 30, 2006 and September 30, 2006 (File No. 000-31191);

(3) Our Current Reports on Form 8-K filed on January 20, 2006, January 25, 2006, March 8, 2006, April 26, 2006, June 1, 2006 and December 11, 2006 (File No. 000-31191);

(4) Our Current Report on Form 8-K/A filed on January 3, 2006 (File No. 000-31191); and

(5) The description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC and declared effective on July 28, 2000 (File No. 000-31191), including any amendment or reports filed for the purpose of updating such description.

In addition, all documents filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of this prospectus and prior to the termination of offerings under this prospectus are deemed to be incorporated by reference into this prospectus.

We will provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request of any such person, a copy of any or all of the documents which are incorporated herein by reference. Requests should be directed to The Medicines Company, 8 Campus Drive, Parsippany, New Jersey 07054, Attention: Investor Relations, Telephone: (973) 656-1616.