EMBARGOED UNTIL 11:05 A.M. EASTERN

ANGIOMAX® / ANGIOX® (BIVALIRUDIN) SIGNIFICANTLY IMPROVED NET OUTCOMES IN HEART ATTACK PATIENTS

In Major Global Trial, Angiomax Reduced Net Adverse Clinical Events, Major Bleeding and Cardiac-Related Death Compared to Heparin Plus a Glycoprotein IIb/IIIa Inhibitor

WASHINGTON – October 24, 2007 – In a landmark global trial of heart attack patients undergoing angioplasty, the anti-clotting agent Angiomax® (bivalirudin) resulted in superior clinical outcomes and fewer cardiac deaths compared to a more complex treatment regimen. These findings from the HORIZONS AMI* trial were presented at a late-breaking session of the 19th annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium sponsored by the Cardiovascular Research Foundation. Angiomax is available in Europe as Angiox®.

The HORIZONS AMI trial compared Angiomax to heparin plus a platelet glycoprotein IIb/IIIa inhibitor (GPI) in more than 3,600 patients presenting with a heart attack. Among Angiomax patients, 7.2% received provisional use of a GPI. Results at 30 days were as follows:

- Angiomax significantly reduced the incidence of net adverse clinical events, a composite of major adverse cardiac events or major bleeding, by 24% (9.2% vs. 12.1%, p = 0.006).
- Angiomax significantly reduced the incidence of major bleeding by 40% (4.9% vs. 8.3%, p<0.0001).
- Angiomax demonstrated comparable rates of major adverse cardiac events (5.4% vs. 5.5%, p = 1.0).
- Angiomax significantly reduced the incidence of cardiac-related mortality by 38% (1.8% vs. 2.9%, p= 0.035).

“These data show that the benefits of bivalirudin therapy extend to patients with heart attacks. We now have compelling evidence supporting the use of bivalirudin instead of heparin and GPI in virtually all patients undergoing angioplasty,” said Gregg W. Stone, MD, professor of medicine, Columbia University Medical Center and chairman of the Cardiovascular Research Foundation, which conducted the trial. “This landmark trial will help shape best practices and guidelines for drug therapy during angioplasty in patients with heart attacks.”

* Harmonizing Outcomes with RevascularizatiON and Stents in Acute Myocardial Infarction

**The Medicines Company**
8 Campus Drive  Parsippany, New Jersey 07054  Tel: (973)656-1616  Fax: (973)656-9898
Angiomax has previously been shown to result in less bleeding and similar rates of composite ischemia compared to heparin plus GPI in patients undergoing angioplasty for stable angina, unstable angina and non-ST-elevation myocardial infarction (NSTEMI). HORIZONS AMI demonstrates that these advantages also apply to angioplasty patients with the most severe form of heart attack, ST-elevation myocardial infarction, or STEMI. Reduced bleeding in angioplasty patients has been shown in other studies to be associated with greater long-term survival.

“This study is an important step forward in our efforts to improve outcomes for heart attack patients,” said Harvey D. White, MD, Director of Coronary Care and Cardiovascular Research at Green Lane Cardiovascular Service, Auckland City Hospital, Auckland, New Zealand. He noted the death rate associated with heart attacks 20 years ago was as high as 13 percent. This rate has fallen with the introduction of thrombolytics and stents. “Based on data presented today, using Angiomax instead of combination therapy may further reduce the incidence of cardiac-related death,” Dr. White added.

“The HORIZONS AMI results clearly demonstrate better clinical outcomes with Angiomax in heart attack patients. Findings from multiple global studies are remarkably consistent and show Angiomax improves outcomes across the entire spectrum of patients treated in the cardiac cath lab,” said John Kelley, President and Chief Operating Officer of The Medicines Company. “Given these results, we anticipate greater uptake of Angiomax by physicians worldwide.”

About HORIZONS AMI
HORIZONS AMI, co-funded by a grant from The Medicines Company, is the largest study to focus on the appropriate use of anticoagulation medications in patients experiencing STEMI and undergoing primary percutaneous coronary intervention (PCI). The trial is a prospective, single-blind, randomized, multi-center study in more than 3,600 patients presenting with a heart attack to hospitals in 11 countries. Patients undergoing angioplasty were randomly assigned to receive either Angiomax with provisional use of GPI or heparin plus GPI. Patients enrolled in the HORIZONS AMI trial also were assigned randomly to receive either TAXUS® drug-eluting stents or a bare-metal stent.

The two primary endpoints of the trial were major bleeding and net adverse clinical events, a composite of major adverse cardiovascular events (death, reinfarction, stroke or ischemic target vessel revascularization) and major bleeding at 30 days. The major secondary endpoint was major adverse cardiovascular events at 30 days.

About ST-Segment Elevation Myocardial Infarction (STEMI)
STEMI is the most severe type of heart attack and carries a substantial risk of death and disability. STEMI involves myocardial injury, as indicated by significant abnormalities on electrocardiogram called ST-segment elevations. Guidelines recommend that STEMI patients be treated with rapid intervention to help prevent further heart damage. According to the
American Heart Association, an estimated 865,000 new and recurrent heart attacks occur every year, of which 400,000 are categorized as STEMI.⁸

STEMI is part of a spectrum of acute coronary syndromes (ACS) caused by acute exacerbation of underlying coronary artery disease. ACS also includes non-ST elevation myocardial infarction (NSTEMI) and unstable angina (UA). NSTEMI is typically caused by partial obstruction of a coronary artery that results in some damage to heart muscle. UA is chest pain at rest or upon exertion, due to ischemia. Stable angina is characterized by predictable chest pain during exertion that resolves at rest, and is not considered a form of ACS. Each year in the United States, about five million people present to the emergency department with chest pain, of which an estimated 1.4 million are identified with ACS.⁹

About Angiomax® / Angiox®
Angiox® / Angiomax® (bivalirudin) for Injection is a direct thrombin inhibitor with a naturally reversible mechanism of action. In clinical trials, Angiomax has demonstrated comparable efficacy plus reductions in bleeding complications compared to heparin as the foundation anticoagulant in the contemporary catheterization lab setting. These reductions in bleeding complications persist even in high-risk patients. Regulatory authorities in the United States and Europe are currently reviewing an application to expand the use of Angiomax / Angiox to include the emergency use of the drug in ACS patients.

For US Media
In the United States, Angiomax with provisional GP IIb/IIIa inhibition is indicated in patients undergoing angioplasty, also called percutaneous coronary intervention (PCI), and in patients with, or at risk of, heparin-induced thrombocytopenia and thrombosis syndrome (HIT/HITTS) undergoing PCI. In addition, Angiomax is indicated for use as an anticoagulant in patients with UA undergoing percutaneous transluminal coronary angioplasty (PTCA). Angiomax is intended for use with aspirin. The most common adverse events for Angiomax in clinical trials comparing Angiomax and heparin were back pain, pain, nausea, headache, and hypotension. The incidence of these adverse events was comparable in both the Angiomax and heparin groups in these trials. An unexplained fall in blood pressure or hematocrit, or any unexplained symptom, should lead to serious consideration of a hemorrhagic event and cessation of Angiomax administration. Angiomax is contraindicated in patients with active major bleeding or hypersensitivity to Angiomax or its components. Please see full prescribing information available at http://www.angiomax.com.

For EU Media
In Europe, Angiox is indicated as an anticoagulant for patients undergoing PCI. Please see full prescribing information available at http://www.angiox.com.

About The Medicines Company
The Medicines Company (NASDAQ: MDCO) is committed to delivering innovative, cost-effective acute care products in the worldwide hospital marketplace. The Company markets Angiomax® / Angiox® (bivalirudin) in the United States and other countries for use in patients undergoing coronary angioplasty, a procedure to clear restricted blood flow in arteries around
the heart. The Company also has two products in late-stage development, Cleviprex™ (clevidipine butyrate injectable emulsion) and cangrelor. The Company’s website is http://www.themedicinescompany.com.

# # #

Statements contained in this press release about The Medicines Company that are not purely historical, and all other statements that are not purely historical, may be deemed to be forward-looking statements for purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Without limiting the foregoing, the words "believes," "anticipates" and "expects" and similar expressions are intended to identify forward-looking statements. These forward-looking statements involve known and unknown risks and uncertainties that may cause the Company’s actual results, levels of activity, performance or achievements to be materially different from those expressed or implied by these forward-looking statements. Important factors that may cause or contribute to such differences include whether the Company’s products will advance in the clinical trials process on a timely basis or at all, whether clinical trial results will warrant submission of applications for regulatory approval, whether the Company will be able to obtain regulatory approvals, whether physicians, patients and other key decision makers will accept clinical trial results, and such other factors as are set forth in the risk factors detailed from time to time in the Company’s periodic reports and registration statements filed with the Securities and Exchange Commission including, without limitation, the risk factors detailed in the Company’s Quarterly Report on Form 10-Q filed on August 9, 2007, which are incorporated herein by reference. The Company specifically disclaims any obligation to update these forward-looking statements.

References