

FOR IMMEDIATE RELEASE  
August 12, 1999

FOR MORE INFORMATION:  
Linda McGinity Jackson, Jewish Hospital:  
502-561-5447  
Kathy Keadle, University of Louisville: 502-561-5447  
Tess Donovan, Brodeur Worldwide for ABIOMED:  
617-587-2981

### **University of Louisville/Jewish Hospital Team Meets Initial Goal in Replacement Heart Research**

Research team demonstrates procedure consistency with AbioCor™ Replacement Heart

(LOUISVILLE) -- Members of the team conducting final phases of pre-clinical readiness demonstration for ABIOMED Inc.'s replacement heart announced today that the first goal has been met. The surgical research team from Jewish Hospital and the University of Louisville have demonstrated procedure consistency and team readiness in laboratory implantation of the AbioCor™ replacement heart. The UofL/Jewish Hospital team has shown that this new procedure can be successfully performed in a laboratory setting with regularity, demonstrating that the device is reliable and that the team is ready to continue with the project in more advanced trials.

The AbioCor™ replacement heart is totally implanted and is designed to replace the full pumping function of the human heart. It is uniquely designed for use by patients with irreparable damaged hearts and at risk of death due to acute myocardial infarction (heart attack), chronic ischemic disease or other forms of end-stage heart failure.

The complete AbioCor™ system consists of the actual pump ("the heart"), which is implanted in the chest in place of the diseased natural heart, and associated components which are implanted in the abdomen. These components include the battery, and electronic control unit ("the brain") and a transcutaneous energy transmission system that transmits power from the outside to the inside of the body without piercing the skin. Patients will carry rechargeable external batteries to power the system and recharge the internal batteries.

"Our team of surgeons, perfusionists, nurses and technicians have met all defined criteria for successful implantation," explained project co-principal investigator Laman A. Gray, Jr, MD, a Jewish Hospital and University of Louisville surgeon. "We have demonstrated that this device can be used consistently and successfully."

The partnership of ABIOMED, Jewish Hospital and the University of Louisville was announced just over one year ago. At that time, team readiness was identified as a primary goal. "We have put together an outstanding group of researchers and clinicians," commented Robert D. Dowling, MD, project co-principal investigator and University of Louisville/Jewish Hospital surgeon. "This project has run exceptionally well, especially considering the large scope of work."

The partnership has attained other achievements over the past year, to include refinements to the device itself. "ABIOMED has been extremely responsive to our questions and suggestions," Dr. Gray continued. "They have truly treated the collaboration as a partnership."

Dr. David Lederman, ABIOMED's CEO, expressed appreciation and respect with the remarkable progress achieved by the Louisville team. "We have had a long history of successful collaboration with Dr. Gray's team in the development and clinical introduction of life-saving technologies," Dr. Lederman explains. "As we achieve technical and program milestones with the AbioCor, we grow more optimistic about our ability to SUCCEED WITH this, the most ambitious device technology undertaking in cardiac medicine."

According to Dr. Lederman, "the AbioCor program now comprises more than 70 full-time engineers, scientists and technical support personnel at ABIOMED alone, plus a large number of highly skilled specialists working with us in at the selected centers."

The team is currently focusing on the refinement of pharmacological management regimens and other pre- and post-surgical advances. These include development of clinical study design, implantation protocols, software tools, post-implantation logistics AND FINALIZING CONVERSION OF THE REPLACEMENT HEART DESIGN FROM BOVINE TO HUMAN CONFIGURATION.

Dr. Laman Gray is an internationally recognized leader in the fields of minimally invasive surgery and development of artificial hearts. Dr. Gray's outstanding accomplishments include performing the first heart transplant in Kentucky (1984) and the first clinical use of ABIOMED's SupraCor® IABP (1992). He was also one of the four primary clinical investigators that brought ABIOMED's BVS-5000® temporary cardiac support system to clinical approval by the FDA (1992). He has been the Director of the University of Louisville School of Medicine's Division of Thoracic and Cardiovascular Surgery for more than 20 years and is a founding member of the Jewish Hospital Heart and Lung Institute.

Dr. Robert Dowling, Associate Professor of Surgery at the University of Louisville, received his training in Cardiothoracic Surgery at the University of Pittsburgh. Dr. Dowling performed the first double-lung transplant (1995) and the first ventricular remodeling (1996) in Kentucky. Dr. Dowling is Director of the Jewish Hospital / University of Louisville Heart Transplant and Cardiac Assist Devices Program and Director of the Kosair Children's Hospital Heart Transplant Program.

Based in Danvers, Massachusetts, ABIOMED, Inc. develops, manufactures and markets innovative cardiovascular, medical and dental products and is a technology leader in the research and development of advanced artificial heart systems.

Jewish Hospital among the top ten cardiac centers in the United States and, along with the University of Louisville, is dedicated to excellence in clinical care, research and education. Jewish Hospital is one of only a few facilities in the world offering a complete range of surgical treatments for end-stage heart failure, including transplantation, ventricular assist devices, cardiomyoplasty and ventricular remodeling.

This research has been made possible, in part, by the Jewish Hospital Foundation.

###