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FOR IMMEDIATE RELEASE

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Scientists Use Stem Cells to Heal Damaged Heart Tissue

San Diego, Calif. (January 19, 2011) – Scientists at HBRI have been collaborating with scientists at the Sanford-Burnham Medical Research Institute (SBMRI) in La Jolla to identify stem cell approaches for regenerating heart muscle tissue after a heart attack.

Scientists have developed approaches that combine stem cell and chemical biology technologies to stimulate cardiogenesis in stem cells and eventually contribute to the development of drugs for regenerating heart muscle tissue. Currently, when someone has a heart attack some of the heart tissue is irreparably damaged, and scar tissue can form around the heart that may eventually lead to heart failure. The adult heart has very limited abilities to regenerate itself.

If regenerative medicine could provide a way to re-generate damaged tissue, or provide a way to prevent heart tissue from sustaining such severe damage during a heart attack, it would be a significant benefit to millions of people who are currently living with heart disease.

Scientists at HBRI and SBMRI have discovered a way to promote cardiogenesis in human embryonic stem cells (hESCs) or human induced pluripotent stem cells (hiPSCs) using small molecules. These small molecules could eventually lead to drugs and be used to regenerate critical tissue in the heart. This approach is one of four research strategies the scientists are working on.

The combination of medicinal chemical and stem cell biology is unprecedented in the field of cardiovascular disease research, and represents an exciting new approach to discover therapies

for a disease that is the number one killer of adults in the United States, and one that affects millions of people worldwide.

About HBRI: The Human BioMolecular Research Institute is a non-profit research institute conducting basic research focused on unlocking biological and chemical principles related to diseases of the human brain, cardiovascular disease and cancer. The Human BioMolecular Research Institute conducts fundamental studies of central nervous system disorders, heart disease and cancer including stem cell approaches and translates findings into new drug development to address human illness. In addition, the institute promotes scientific learning and training through community service and public access by disseminating information and sharing research with collaborators, colleagues and the public. For more information, visit www.HBRI.org.

About SBMRI: Sanford-Burnham Medical Research Institute is dedicated to discovering the fundamental molecular causes of disease and devising innovative therapies of tomorrow.

SBMRI utilizes a unique, collaborative approach to medical research and has established major research programs in cancer, neurodegeneration, diabetes, and infectious, inflammatory, and childhood diseases. The Institute is especially known for its world-class capabilities in stem cell research and drug discovery technologies.