
BIOGRAPHICAL SKETCH

Ge Tao, PhD

Assistant Professor,
Dept. Regenerative Medicine & Cell Biology, MUSC
173 Ashley Ave, BSB-642 / MSC 508
Charleston, SC 29425
Email: taog@musc.edu
Office: 843-792-5059
Fax: 843-792-0664

Personal Statements

The Tao lab at MUSC was established on a broad background in myocardial regeneration, with expertise in mouse cardiac survival surgery, Crispr-Cas9 technology, and 2nd generation sequencing. My colleagues and I have laid the groundwork for our future research in cardiac regeneration. Our previous work demonstrated a beneficial role of *Pitx2* in myocardium after substantial injury. We showed that sufficient expression of *Pitx2* could rescue mature myocardium from severe damage, and *Pitx2* interacts with Hippo-Yap signaling, and functions downstream of Nrf2, a well-studied master regulator of oxidative stress. Currently I am investigating the regulatory role of *Pitx2* and its binding partners in cardiac homeostasis, funded by an AHA Scientist Development Grant. The current projects in our lab include the expansion of *Pitx2* studies to further dissect the pathway, as well as screening for other beneficial factors. The technical strategies in Tao lab typically start with unbiased screening based on CRISPR technology and Next Generation Sequencing. Candidate pathways will be validated in cell lines and tissue samples with molecular biology and biochemical experiments. Eventually, each hypothesis will be examined using an adult murine cardiac survival surgery model, where artificial myocardial infarction is induced by occluding the left anterior descending coronary artery. The effect of gene manipulation on the scarring and recovering of the myocardium will be assessed by non-invasive echocardiography, histology, immunofluorescence, and biochemistry.

Lele Li

Graduate Student, Department of Molecular Physiology and Biophysics, Baylor College of Medicine. Room 509E, One Baylor Plaza, Houston TX 77030, USA. Email: lelel@bcm.edu

Matthew C. Hill

Graduate Student, Program in Developmental Biology, Baylor College of Medicine. Room 509E, One Baylor Plaza, Houston TX 77030, USA. Email: matthew.hill@bcm.edu

Peter C. Kahr, MD

Postdoctoral Fellow, Department of Molecular Physiology and Biophysics, Baylor College of Medicine. Room 509E, One Baylor Plaza, Houston TX 77030, USA.

Current position: Department of Cardiology, University Hospital Zurich, Zurich, 8091, Switzerland

Email: pckahr@gmail.com

Yuka Morikawa, PhD

Research Scientist, Cardiomyocyte Renewal Laboratory, Texas Heart Institute, Houston TX 77030, USA. Email:

morikawa@bcm.edu

Min Zhang, PhD

Postdoctoral Associate, Department of Molecular Physiology and Biophysics, Baylor College of Medicine. Room 509E, One Baylor Plaza, Houston TX 77030, USA.

Current location: Shanghai Children's Medical Center, Shanghai, China

Email: minzhang5099@gmail.com

Todd R. Heallen, PhD

Research Scientist, Cardiomyocyte Renewal Laboratory, Texas Heart Institute, Houston TX 77030, USA. Email: heallen@bcm.edu

James F. Martin, MD/PhD

Vivian L. Smith Professor
Department of Molecular Physiology and Biophysics
Baylor College of Medicine
Room 512E, One Baylor Plaza and
Director Cardiomyocyte Renewal Lab
Texas Heart Institute
Houston, Texas 77030
Email: jfmartin@bcm.edu
Phone: 713 798 5931 (office)