



Li Qian, Ph.D.



Functional Tissue Engineering

Research emphasis:

Our laboratory is interested in developing innovative approaches to regenerate or repair an injured heart. We utilize *in vivo* modeling of cardiac disease in the mouse, including myocardial infarction (MI), cardiac hypertrophy, chronic heart failure and congenital heart disease. In addition, we take advantage of the newly developed reprogramming technologies to investigate the fundamental events underlying the progression of various cardiovascular diseases as well as to discover the basic mechanisms of cell reprogramming.

Application:

- Cell atlas
- Heart regeneration
- Precision medicine
- Cardiovascular disease therapy

Collaboration potential:

- Programming and reprogramming cells
- Tissue/organ regeneration
- Epigenetics
- Stem cell and cardiovascular biology

4 Selected publications:

Qian L. (2016) Hope for the brokenhearted: cellular reprogramming improves cardiac function in a mouse model of myocardial infarction. *Science* 352 (6292), 1400-1401 (Summary of our research)

Zhou Y., Wang L., Vaseghi H., Liu Z., Lu R., Alimohamadi S., Yin C., Fu J., Wang G.G., Liu J. and Qian L. (2016) Bmi1 is a key epigenetic barrier to direct cardiac reprogramming. *Cell Stem Cell* 18(3), 382-395.

Wang L., Liu Z., Yin C., Asfour H., Chen O., Li Y., Bursac N., Liu J. and Qian L. (2015) Stoichiometry of Gata4, Mef2c and Tbx5 influences the efficiency and quality of iCM reprogramming. *Circulation Research*. 116, 237-244

Qian L., Huang Y, Foley A, Vedantham V, Spencer CI, Conway SJ, Fu JD, Srivastava D. (2012) In vivo reprogramming of murine cardiac fibroblasts into cardiomyocytes. *Nature*. 485, 593-598

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