

[DRTC HOME »](#)

Keywords: [diabetes](#) [featured investigator](#) [archives](#)

[Expand](#)

Featured Investigator :: Dr. Li Kang

[Li Kang, Ph.D.](#)

Research Fellow, Molecular Physiology and Biophysics

Research Specialty:

Muscle glucose metabolism in insulin resistance

Research Description:

My research focuses on the pathogenesis of muscle insulin resistance. To better understand the causes of insulin resistance we study mice with specific mutations or mice overexpressing specific genes. Insulin action in conscious, unstressed mice is studied by the hyperinsulinemic-euglycemic clamp technique. I have shown that high fat feeding induced insulin resistance is associated with extracellular matrix (ECM) remodeling such that there is a proliferation of ECM components. I have linked mitochondrial oxidative status during high fat feeding to ECM remodeling by using transgenic mice that have high mitochondrial anti-oxidant capacities. These mice are protected from muscle ECM remodeling and insulin resistance. I have also shown that proliferation of ECM components contribute to insulin resistance in muscle by treating mice with pharmacological agents that degrade ECM constituents. My work has shown that increased ECM collagen binding to integrin molecules contributes to the insulin resistance of high fat feeding. The research I have completed and that is ongoing will provide new opportunities to explore therapeutics for insulin resistance and type 2 diabetes.

