**Introduction**

Insulin resistance predisposes to cardiovascular disease by inducing endothelial dysfunction. Our laboratory has shown that insulin resistance impairs the capacity for endothelial repair. Additionally, we have discovered that a circulating protein, insulin-like growth factor binding protein-1 (IGFBP-1), is potentially protective in the vasculature by stimulating nitric oxide production and enhancing insulin sensitivity. In cross-sectional studies, low IGFBP-1 levels are associated with diabetes and cardiovascular disease. In this project, we investigated whether IGFBP-1 can enhance vascular endothelial repair in insulin resistant mice *in vivo* and examined potential mechanisms in human endothelial cells and endothelial progenitor cells *in vitro*.
manipulating IGFBP-1 could be a strategy to enhance endothelial repair in patients with insulin resistance.