

Role of TLR4 on the Pathogenesis of Insulin Resistance

Emerging evidence suggests that toll-like receptor (TLR)4 and downstream pathways [MAPKs and nuclear factor (NF) κ B] play an important role in the pathogenesis of insulin resistance. LPS and saturated free fatty acids (FFA) activate TLR4, and plasma concentrations of these TLR4 ligands are elevated in obesity and type 2 diabetes. In my presentation I will discuss recent studies from my laboratory aimed at investigating the role of TLR4 and metabolic endotoxemia on the pathogenesis of insulin resistance in obese and diabetic individuals. We have carried out experiments in cells, rodents and human subjects, and some of these data will be presented.