The notion that diet and/or the gut microflora influences immunity and autoimmunity have not been taken in deep consideration, in part because precise molecular pathways had not been identified. Studies of inflammatory bowel disease and experimental colitis in mice have suggested that short-chain fatty acids (SCFAs), which are produced by gut bacteria during fibre fermentation in the gut, can have anti-inflammatory effects on the development of many inflammatory diseases. Our lab investigates the relationship between the immune system, the intestinal microflora and diet that cause inflammation and autoimmunity. Thus, we are trying to understand how microbial SCFAs regulate gut homeostasis, affect regulatory T cell (Treg) biology and subsequently affect inflammatory responses associated with autoimmune diabetes, insulin resistance, proteinuria and the incidence of obesity.

Selected significant publications:


