NOVEL THERAPY FOR TYPE I DIABETES

TECHNICAL FIELD
Therapeutic

APPLICATION
Treatment for autoimmune diseases

DESCRIPTION
T regulatory cells are very powerful down modulators of immune responses. We for the first time have shown that CD137pos cells are functionally and phenotypically different than normal Tregs and are more suppressive of immune function. In addition, we have now shown that CD137pos Tregs make large amounts of the spliced variant of CD137, soluble CD137.

Soluble CD137 has been described as increased in the serum of patients with autoimmune diseases, but its function is not well understood. We have evidence from studies that soluble CD137 is highly suppressive of T cell function and proliferation.

We have in fact cloned soluble CD137 into a lentiviral vector and have shown that we can both prevent Type I diabetes, and control new onset diabetes in nonobese diabetic (NOD) mice with our recombinant soluble CD137. Thus we have demonstrated that soluble CD137 has bioactivity against autoimmune diseases in vivo.