



Gene Therapy for Preventing Diabetes

The University of Florida is seeking companies to commercialize an AAV vector gene therapy protocol designed to deliver anti-inflammatory cytokines and/or alpha-1 antitrypsin (AAT), a compound with known anti-inflammatory properties, to individuals at risk for type 1 diabetes in an effort to prevent progression to the disease. The Centers for Disease Control estimates that there are presently over 18 million diabetics in the United States: 13.3 million diagnosed and 5.2 million who remain unaware of their condition. Studies have shown there is a genetic link to type 1 diabetes, and researchers have been able to identify relatives of diabetics who are at high risk for developing diabetes in the future. This therapy provides a novel preventative treatment for those individuals who are at an increased risk of developing the disease.

Applications

Prevention of type 1 diabetes in susceptible individuals

Advantages

- ◆ Prevents the onset of type 1 diabetes, extending the health and quality of life of individuals at risk of developing the disease
- ◆ Gene therapy treatment could prevent a life time of glucose management and insulin replacement therapy as well as health problems associated with diabetes, reducing health care costs and increasing life expectancy of patients
- ◆ Treatment could also be coupled with islet transplantation in diabetics to decrease inflammation and immune response to the tissue, preventing rejection of the tissue

The Technology

Type 1 diabetes is an autoimmune disease resulting in destruction of pancreatic islets, which are required for insulin production. Animal research has shown that systemic treatment with anti-inflammatory cytokines and/or alpha-1 antitrypsin can prevent development of type 1 diabetes in mice predisposed to diabetes. University of Florida researchers developed a novel AAV vector treatment for delivery of anti-inflammatory cytokines and/or alpha-1 antitrypsin to the islet cells of individuals at risk of developing diabetes. Researchers hope that this treatment will prevent or delay the onset of type 1 diabetes in predisposed individuals, improving their health and quality of life, and reducing medical costs.

contact

Anita Rao
University of Florida
Office of Technology Licensing
352/392-8929 • email: arao@ufl.edu
Reference UF #10612 ~ Patent pending



UNIVERSITY OF
FLORIDA

Office of Technology Licensing

*Facilitating Technology Transfer
To Serve Faculty and Community*

www.otl.ufl.edu