Therapeutic immune tolerant human islet-like organoids (HILOs) for Type 1 Diabetes

Grant Award Details

Therapeutic immune tolerant human islet-like organoids (HILOs) for Type 1 Diabetes

Grant Type: Quest - Discovery Stage Research Projects

Grant Number: DISC2-11175

Project Objective: In vivo validation of therapeutic immune tolerant human islet-like organoids (HILOs) for Type 1 Diabetes that incorporate a safety kill switch.

Investigator:

Name:	Ronald Evans
Institution:	Salk Institute for Biological Studies
Type:	PI

Disease Focus: Diabetes, Metabolic Disorders, Type 1 diabetes

Human Stem Cell Use: Embryonic Stem Cell

Cell Line Generation: Embryonic Stem Cell

Award Value: $1,637,209

Status: Closed

Progress Reports

Reporting Period: Year 2

View Report

Grant Application Details

Application Title: Therapeutic immune tolerant human islet-like organoids (HILOs) for Type 1 Diabetes

Public Abstract:	**Research Objective** Development of immune tolerant human islet-like organoids for transplantation into diabetic patients. **Impact** Our proposal will progress the development of an unlimited, reproducible source of immune tolerant engineered islets for transplantation into Type I diabetics. **Major Proposed Activities** • Demonstrate efficacy of immune tolerant HILOs in humanized diabetic mice • Demonstrate safety of immune tolerant HILOs • Incorporate a “kill switch” into immune tolerant HILOs
Statement of Benefit to California:	Diabetes affects 3 million people in California. Type 1 diabetes is a particular burden as it requires life-long administration of insulin. Allo- transplantation of islets is limited by availability of donor cells. This proposal will progress the development of functional islet-like organoids as an unlimited, reproducible source by engineering in immune tolerance to enhance and prolong functionality and survival upon transplantation into diabetic patients.

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