
A CIRM Disease Team for the Treatment and Cure of Diabetes

Grant Award Details

A CIRM Disease Team for the Treatment and Cure of Diabetes

Grant Type: Disease Team Planning

Grant Number: DT1-00652

Investigator:

Name:	Jeffrey Bluestone
Institution:	University of California, San Francisco
Type:	PI

Disease Focus: Diabetes, Metabolic Disorders

Award Value: \$55,000

Status: Closed

Grant Application Details

Application Title: A CIRM Disease Team for the Treatment and Cure of Diabetes

Public Abstract:

This proposal is for the establishment of a group of faculty, staff and industrial partners to develop a proposal for a Diabetes Disease Team. Diabetes is one of the most devastating diseases. Inadequate blood glucose control results on many long term complications including: kidney disease, blindness, amputation and nerve damage. The diabetes epidemic affects almost 10% of California's population (an estimated 2,500,000+ cases). In fact, diabetes is now the 4th leading cause of death. However, for many individuals, the cure for this disease is at hand. The combination of an insulin-producing islet transplant and effective immunotherapies has resulted in a long-term insulin injection-free existence for some. However, two critical elements had prevented this "cure" from generalized applicability. First, there is a shortage of cadaveric pancreases from which to derive the islet cells. Second, the long term use of immunosuppressive drugs to treat islet rejection has its own health consequences. Therefore, a remarkable opportunity lies ahead for the use of stem cell-derived islets and novel immune therapies as a cure for this disease. The planning effort, supported by this proposal, will be geared towards developing a CIRM Diabetes Disease team that will tackle these problems. Faculty and staff from several California institutions will form the core team. These individuals have combined pre-clinical and clinical studies to demonstrate that stem cell-derived islets and islet transplantation are viable therapeutic opportunities for the treatment of this disease. The Diabetes Disease Team planning grant will provide an opportunity to develop a multi-disciplinary, multi-institutional program that brings the best talent and processes to the problem of developing stem cell-derived islet transplantation for the treatment of diabetes. Investigators with expertise in stem cell and developmental biology, immunology, diabetes and clinical trial process will meet and form subcommittees to contact investigators from around the state and country to identify those that will bring creative ideas and substantive expertise to the Team. We will define the holes in the field and seek out experts to work with the team to fill those holes. In summary, we believe that this Diabetes Disease Team will meet CIRM's primary goal - namely advancing a stem cell-derived therapy into the clinic while making sure that the therapies are safe and ethically justified.

Statement of Benefit to California:

Diabetes is one of the most devastating diseases. Inadequate blood glucose control results on many long term complications including: kidney disease, blindness, amputation and nerve damage. In fact, diabetes is now the 4th leading cause of death. The diabetes epidemic affects almost 10% of California's population (an estimated 2,500,000+ cases). The disease affects the underserved and elderly disproportionately and has a particularly destructive affect on the poor. Moreover, Type 1 Diabetes is a disease of children with a sentence to a lifelong requirement for multiple insulin injections each day and compounded clinical complications due to the years of inadequate glucose control. Clinical research efforts to cure this disease would have a tremendous affect on the health and welfare of the citizens of the state of California and financial benefits to a health care system where as much a 1 in every \$4 is spent on the consequences of diabetes. By forming a state-wide Diabetes Disease Team, we hope to capture the most advanced technologies and research efforts to create a clinically-effective therapy based on stem cell-derived islet transplantation.

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