

Beta Cell Stem Cells as Targets for Regenerative Therapies

JDRF Requests *Expressions of Interest* for proposals to identify and characterize adult beta cell stem or progenitor cells as targets for regenerative therapies for the treatment of type 1 diabetes

Identifying the cells that can give rise to new beta cells in the adult pancreas is a critical step in the rational design of therapeutic strategies to regenerate beta cell mass in patients with type 1 diabetes. Despite mounting evidence supporting beta cell replication as the primary means for maintenance and expansion of beta cell mass, the origin of regenerated beta cells is not fully resolved. Recent evidence demonstrating the ability of beta cells to arise from a *Ngn3* positive precursor cell in a model of pancreatic injury has re-invigorated interest in identifying an adult beta cell stem or progenitor cell.

The purpose of this call for *Expressions of Interest* is to invite proposals to identify and characterize the beta cell stem/progenitor cell as well as the pathways and cellular processes that regulate its physiologic expansion and differentiation to give rise to functional, mature beta cells.

Examples of pertinent topics include, but are not limited to:

- application of lineage tracing techniques to identify the exact stem/progenitor cell responsible for beta cell neogenesis
- isolation and characterization of stem/progenitor cells giving rise to functional beta cells in relevant animal models
- investigation and development of novel markers to support isolation and characterization of the progenitor/stem cell in the adult animal
- isolation and characterization of human stem/progenitor cells capable of regenerating functional beta cells in an animal model
- elucidation of pathways and factors regulating physiologic progenitor cell differentiation and expansion
- proof-of-concept studies using pharmacologic or genetic means to promote neogenesis and restore glucose-responsive insulin secretion and beta cell mass in an animal model of diabetes

Collaborative efforts engaging investigators with complementary expertise are highly encouraged.

This call is *not* intended to support:

- studies of embryonic beta cell development
- efforts to differentiate embryonic stem cells towards the beta cell fate in vitro or in vivo
- trans-differentiation or re-programming of non-beta cells or non-beta cell precursors toward a beta cell fate
- differentiation or expansion of beta cells in vitro or ex vivo for transplantation or cell replacement therapy

Applicants who wish to consult with JDRF Program Staff to discuss the responsiveness of their proposal to this program may do so. Enquiries in this area should be referred to Andrew Rakeman, Ph.D., arakeman@jdrf.org, +1-212-479-7664.

Expressions of Interest are being solicited to be able to provide advice about the most appropriate grant mechanism. **Expressions of Interest** should be no more than two pages in length including, where applicable, the following information:

- Brief details of approach proposed, including rationale and references to published or preliminary data (preliminary data need not exist)
- Short and long-term development goals set forth as milestones
- Total estimated budget and project duration (up to 2 years)

Please note that successful applications, regardless of funding mechanism, will require quarterly reports as a condition for continued funding.

Eligibility

Applicants must hold an M.D., D.M.D., D.V.M., Ph.D., or equivalent academic degree and hold a faculty position or equivalent at a college, university, medical school, or comparable institution. Applications may be submitted by domestic or foreign non-profit organizations, public or private, such as colleges, universities, hospitals, laboratories, units of state or local governments, eligible agencies of the federal government, or for-profit organizations. There are no citizenship requirements.

Key Dates

Expressions of Interest should be submitted no later than November 24, 2008 at 11:59 p.m. EST on proposal Central (<https://proposalCentral.altum.com/login.asp>). For questions regarding submission, please contact grantsupport@jdrf.org.

RFA Release Date	EOI Deadline	EOI Decision Notification
09/18/08	11/24/08	12/15/09

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 Assistance can be obtained Monday through Friday between 8:30am and 5pm U.S. Eastern Time.