JDRF REQUESTS APPLICATIONS FOR:

IMPROVED AUTOANTIBODY ASSAYS FOR PREDICTING RISK FOR TYPE 1 DIABETES (T1D)

PURPOSE

JDRF is soliciting applications for optimizing and validating existing technologies for predictive screening for T1D risk and autoimmunity to be applied for wide-spread use in population-based screening efforts, including newborn or childhood based screening.

BACKGROUND

Prevention of T1D represents a "cure" for those at-risk of developing the disease, and, in fact, may represent the most cost-effective approach to a cure. In addition, prevention of T1D is becoming increasingly important with the rising incidence of the disease. Over the last three to four decades, the incidence of T1D has increased at an annual rate of 3-5%, including penetration in the low-moderate human leukocyte antigen (HLA) risk groups, suggesting an altered paradigm for T1D development. In some countries, the largest increase in incidence has occurred in children between 1-5 years of age.

Currently, HLA genotype is the major genetic risk factor for T1D and can be used as an initial screen for risk. To date, assays of islet autoantibodies (AAbs) are the most robust approach to detect additional risk in these individuals as well as to detect risk in relatives of individuals with T1D or in the general population. Indeed , the 10-year risk of progression to symptomatic T1D with multiple islet AAbs (insulin, GAD65, IA-2 and ZnT8) is 70%, and the lifetime risk approaches 100%. However, the current clinical research practices for AAb screening, including screening for genetic risk in neonates or screening for AAbs in first-degree or second-degree relatives who are known to have an increased risk, detect only 40% and 15% respectively, of individuals who will progress to T1D. Only a relatively small proportion of HLA at-risk children develop T1D. Therefore, new approaches are required to increase the sensitivity and specificity of screening above these thresholds. Existing AAb assays used to predict the risk of T1D are also both cost- and blood volume-prohibitive for universal childhood screening.

The development of improved islet AAb assays to enable T1D risk detection in the general population or increased capability to screen in enriched populations (HLA at-risk, relatives) would facilitate recruitment for clinical research focused on identifying environmental triggers and natural history of T1D, along with interventions to prevent T1D.

OBJECTIVES

Applications are sought from investigators who seek to optimize and/or validate existing platforms for islet AAb detection. These assays should meet the following criteria for general population-based screening, which may include newborn or childhood-based screening methods:

- Selectivity and sensitivity as assessed through an Autoantibody Standardization Program
- High-throughput capacity
- Low volume needed for screening in newborns and children
- Low cost for enabling widespread clinical research and ultimately standard of care
- Possibility for the assay to be deployed as point-of-care testing

Investigators with alternative ideas or resources that might benefit this initiative should communicate with the scientific contact listed at the end of this RFA.

This RFA will not support the development of new technologies or assays.

Collaborative projects, where possible, to interrogate common sample or data sets are encouraged, and higher budgets may be allowed for such projects. Please communicate with the scientific contact listed on this RFA prior to submission of an application for approval of such projects.

Please Note: Participation in a recognized Antibody Standardization Program should be included as part of the proposal.

ELIGIBILITY

Applicants must hold an M.D., D.M.D., D.V.M., Ph.D., or equivalent academic degree and a faculty position or equivalent at a college, university, medical school, for-profit research based organization or other comparable institution.

Applications may be submitted by domestic or foreign public or private non-profit organizations, such as colleges, universities, hospitals, laboratories, units of state or local governments or eligible agencies of the federal government. Please note that applications from for-profit entities or industry collaborations with academia may be submitted to this RFA, however, additional information will be requested from for-profit entities.

There are no citizenship requirements for this program. To assure continued excellence and diversity among applicants and awardees, JDRF welcomes applications from all qualified individuals and encourages applications from persons with disabilities, women, and members of minority groups underrepresented in the sciences.

MECHANISM

RFAs in response to this announcement can be submitted to our Strategic Research Agreement (SRA) or Industry Development and Discovery Program (IDDP) grant mechanisms. For more information on these mechanisms, please refer to our website:

- **Strategic Research Agreements:** http://grantcenter.jdrf.org/information-for-applicants/grant-mechanism-descriptions/strategic-research-agreements/
- **Industry Development and Discovery Program:** http://grantcenter.jdrf.org/industry-partnerships/

Up to a maximum of $250,000 per year for up to 2 years of funding (including 10% indirect costs) may be requested.

As noted above, collaborative projects may be allowed higher budgets. Please contact the scientific contact listed on this RFA prior to submission of an application for approval of such projects.

Applications that are not funded in this competition may be resubmitted to other JDRF grant mechanisms according to the deadlines and guidelines described on the JDRF website: http://grantcenter.jdrf.org/rfa/

ANNOUNCEMENT INTRODUCTION AND PUBLIC Q&A

JDRF will hold an announcement introduction meeting via web and teleconference on **Thursday, December 8 at 11:00am** US Eastern Standard Time, to which all interested prospective applicants are invited. JDRF scientists will give an overview of the goals of this initiative, explain the application process and answer initial questions on applications. A brief introduction on JDRF's new grant application portal (RMS360) will also be given.

Click here to Join WebEx meeting
Meeting number: 739 914 587
Meeting password: HKPjCbj8

Join by phone

1-866-469-3239 Call-in toll-free number (US/Canada)

1-650-429-3300 Call-in toll number (US/Canada)

Global call-in numbers | Toll-free calling restrictions

DEADLINES

- **Release Date**: .....December 2, 2016
- **Application Due Date**: .....February 10, 2017
- **Response to Applicants Date**:.....May 2017
- **Earliest Anticipated Start Date**:.....July 2017

PROPOSAL

The application must be completed using the templates provided on the RMS360 website https://jdrf.smartsimple.us. Proposal section templates in MS Word should be type-written, single-spaced and in typeface no smaller than **10-point font** and have no more than **six vertical lines per vertical inch**. Margins, in all directions, must be at least ½ inch. Complete information should be included to permit review of each application without reference to previous applications. The Research Plan must be organized as follows:

A. Background and Significance of this work to the goals of the RFA
B. Proposed Research
C. Rationale for proposed research
D. Research Design and Methods
E. Advantages over alternative approaches that would address the same goal
F. Future plans if research is successful and potential translational impact
G. Intellectual Property or commercial efforts associated with the current application
H. References (no page limit)
I. Principal Investigator Assurance

For SRAs, all information in items A-G must be incorporated in the 12-page limit without exception.
Note that applications with research plans exceeding the page limit will not be reviewed.

PROPOSAL COMPONENTS

- Applicant and Institutional Demographics (including Financial and Administrative Officer)
- Approved RFA
- Institutional Letter of Support
- Key Personnel
- Lay and Technical Abstracts
- Budget
- Budget Justification
- Subcontract Budget *(if applicable)*
- Subcontract Budget Justification *(if applicable)*
- Other Support (for the PI only)
- Organization Assurances (IRB and/or IACUC)
- Biosketches (for all Key Personnel)
- Research Plan
- Human Subject Research Plan *(if applicable)*
- Resources
- Supporting Documents (i.e. Letter(s) of Collaboration, etc.)

SUBMISSION INSTRUCTIONS

Applicants must register as an applicant and submit their application in response to this RFA using JDRF's on-line research management system RMS360 (https://jdrf.smartsimple.us).

REVIEW CRITERIA

Applications will be evaluated based on JDRF's standard confidential award policy and according to the following criteria:

- Significance
- Relevance
- Approach
- Innovation
- Investigator Experience
- Environment

Significance: How will this research improve the current methods for predicting risk of T1D?

Relevance: Is the proposed research relevant to the objectives of this RFA? What will be the expected impact of these studies on the JDRF's mission?

Approach: Are the conceptual framework, design, methods and analyses adequately developed, well integrated and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics? Is the proposed research feasible within the term of the award? Are resources and knowledge based on prior experience and know-how?

Innovation: Does the project employ novel concepts, approaches or methods? Are the aims original and innovative? Does the project challenge existing paradigms or develop new methodologies or technologies?

Investigator Experience: Is the investigator appropriately trained and well suited to carry out the planned studies? Is the work proposed appropriate to the experience level of the principal investigator? If the investigator does not have T1D experience, are there appropriate collaborative arrangements with experts in T1D? For collaborative projects, is the project well led and coordinated?

Environment: Does the scientific environment in which the work will be performed contribute to the probability of success? Do the experiments proposed take advantage of unique features of the scientific environment or employ useful **collaborative** arrangements? Is there evidence of institutional support?

SCIENTIFIC CONTACT

Jessica Dunne, Ph.D.
Director, Discovery Research
JDRF
26 Broadway, 14th Floor
New York, NY 10004
☎ 212-479-7595
jdunne@jdrf.org

ADMINISTRATIVE CONTACT

Zenia Dacio-Mesina
Senior Program Administrator, Prevention
JDRF
26 Broadway, 14th Floor
New York, NY 10004
☎ 212-479-7635
zdacio-mesina@jdrf.org

If you have any grant-specific questions as you work within RMS360, please contact the administrative contact listed above. For any non-grant-specific inquiries or technical issues, please contact SmartSimple Support Services via email support@smartsimple.com or phone (866) 239-0991. Support hours are Monday through Friday between 5:00am and 9:00pm US Eastern Standard Time.