JDRF IMPROVING LIVES. CURING TYPE 1 DIABETES.

Informational Webinar:

Realignment of Established Targets & Mechanisms for Delaying or Reversing T1D

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JDRF's Purpose

Our Vision:

A world without T1D

Our Mission:

Improving lives today and tomorrow by accelerating life-changing breakthroughs to cure, prevent and treat T1D and its complications.

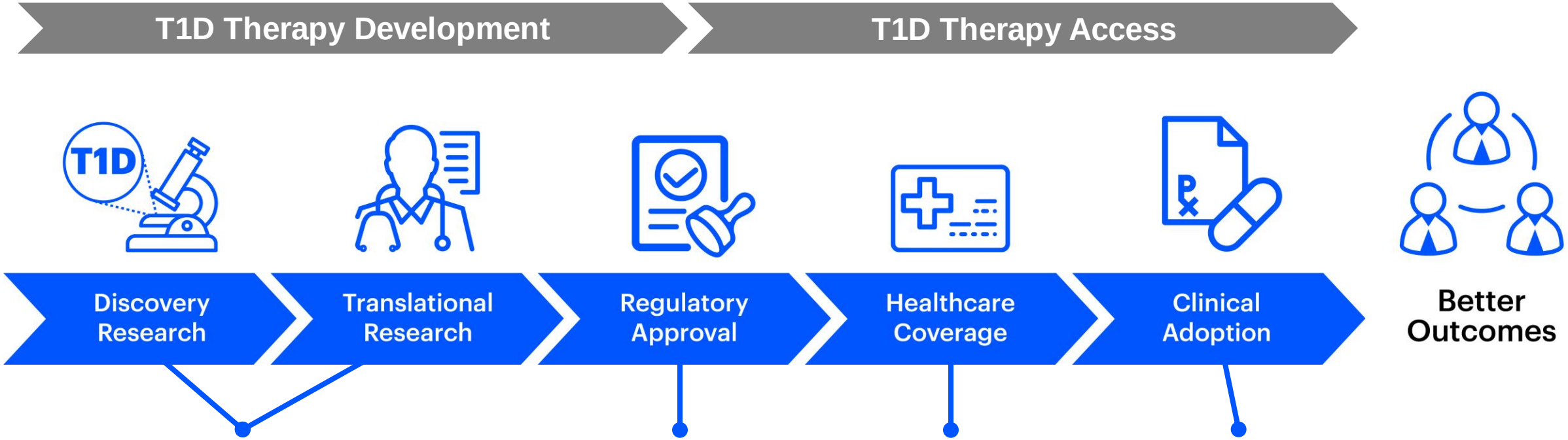
JDRF Drives Research

JDRF has built a team of in-house researchers whose collective knowledge of the T1D field is unsurpassed

- Partner with leading T1D researchers, institutions, and experts around the world
- Bring other top researchers into the T1D field
- Direct and drive research across a strategic portfolio of work
- Continually seek out new opportunities and creative partnerships
- Support advances through grant funding, investments, and partnerships

JDRF has played a key role in every major T1D advance – drug, device, or cell research, made in the last 50 years.

JDRF Affects Every Step in the Pipeline



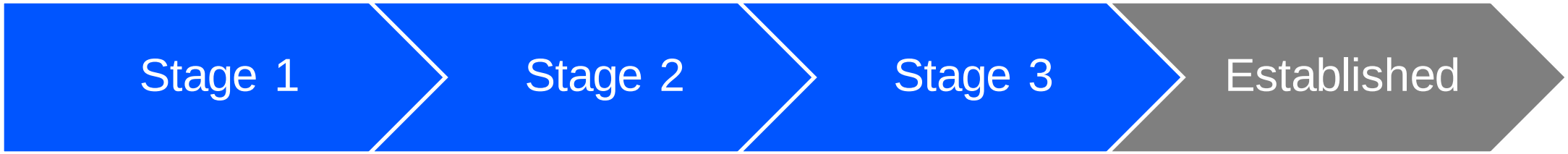
- Fund Research
- Advocate for Government Funding of Research
- Invest Alongside For-Profit Funders in T1D Products
- Advance Clinical Trials

- Improve Prospects for Regulatory Approval

- Increase Coverage, Affordability, and Choice

- Support Continuing Healthcare Provider Education
- Education Community

Therapies for Every Stage of T1D



Normal Blood Sugar
Multiple Autoantibodies

Abnormal Blood Sugar
Multiple Autoantibodies

Insulin Dependence
Some Insulin Production

Clinical Diagnosis of T1D based on HbA1C

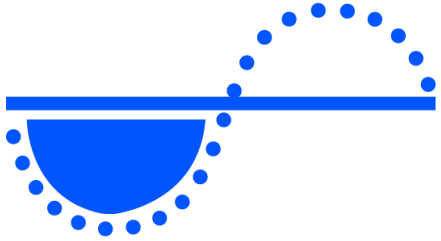
Insulin Dependence
Negligible Insulin Production

JDRF Research Priorities

Global Universal Screening

Disease Modifying Therapies

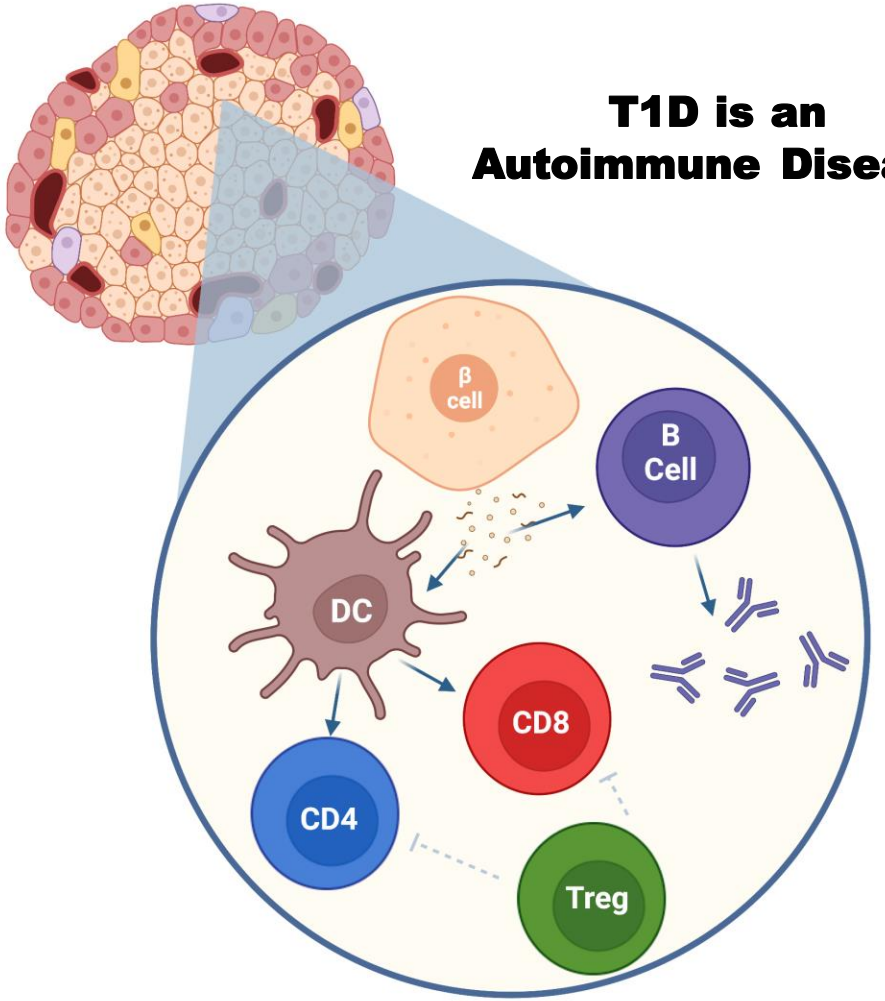
Cell Therapies



Improving Lives

Training of Researchers and Clinicians

What Are Disease Modifying Therapies?



T1D is an Autoimmune Disease

The aim of the Disease Modifying Therapy Portfolio within the JDRF Cures Program is to identify therapies that delay, halt, and/or reverse the progression of T1D

Candidate DMTs will be directed toward rebalancing the immune system, preserving or regrowing beta cells, and ideally both, and will be targeted to every stage of disease.

Disease Modifying Therapies Strategy

Turn off the autoimmune attack against the insulin-producing beta cells

- Therapies that disable the immune attack on beta cells
- Therapies that enhance regulatory immune features that protect beta cells
- Anti-inflammatory or immune deviation therapies to promote beta cell health

Create and sustain beta cells

- Therapies that stimulate the growth of beta cells
- Therapies that derepress the function of beta cells

Future of Disease Modifying Therapies

JDRF has set the ambitious goal of actively expanding the number of clinical trials testing possible therapies for T1D over the next few years

Build on current momentum.

Maintain robust reservoir of discovery research for advancement

Strategically fill gaps in knowledge and therapeutic need.

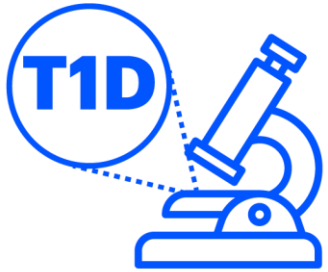
Focus on a combinatorial approach able to halt autoimmunity and/or replenish beta cells at any stage of disease

Future of Disease Modifying Therapies

Current Gaps of Particular Interest:

- Greater specificity in targeting diabetogenic T cells versus pan-T cell or systemic immune modulation
- Broader understanding of the role of the innate immune system in T1D pathogenesis
- Cytokine-based approaches for therapy, particularly the development of IL-2 and similar muteins with high efficacy and safety.
- Improved protocols for the use of Tregs as cell therapies with sustained efficacy and self-renewed longevity
- Targeting abilities to focus regenerative therapies to islets and beta cells specifically
- Identification of best antigen(s) and strategies for effective tolerization in early stages of disease.
- Assessment of drugs approved for other autoimmune diseases or indications that may show efficacy in T1D

Current Funding Opportunity



Realignment of Established Targets & Mechanisms for Delaying or Reversing T1D

- There is a strong potential for overlap in the biological processes of different diseases and research currently underway in fields such as autoimmunity, metabolism, and cancer immunology.
- This funding opportunity aims to accelerate the development of therapies for T1D by fast-tracking discovery and preclinical research currently underway in other disciplines and fields.
- Approaches and perspectives from other disease research fields with experience in the development of immunotherapy and combination therapy approaches will be important to include in this accelerated development.
- JDRF seeks well-reasoned and methodological approaches toward the validation and preclinical testing of targets and mechanisms currently not under investigation for T1D

Goals of the RFA

Identify new candidates for clinical trial intervention in T1D by identifying and validating targets and mechanisms from other disease indications or disciplines

Leverage previous research in laboratories studying these targets and mechanisms to initiate accelerated evaluation of their potential in the ongoing development of therapeutic interventions for T1D

Engage with investigators new to the field to incorporate additional perspectives and approaches in the search for a cure for T1D

Project Eligibility

- Preliminary data validating the target or mechanism in other field of study is required
- The proposed target or mechanism should not have previously been explored for a role in T1D
- Clear rationale (based upon the preliminary data) should be provided for exploration of the target or mechanism in T1D
- A concise and realistic assessment of a path for the proposed work to translate into a therapeutic intervention should be included

Work proposed should address at least one of the JDRF strategies for disease modifying therapies:

- Enhancement of regulatory immune features that protect beta cells
- Disabling the autoimmune attack on, or recognition of, beta cells
- Anti-inflammatory or immune deviation strategies that promote beta cell health by preserving long-term tolerance, preventing re-emergence of T effector cells, or support and maintain Treg function
- Stimulation of beta cell growth or reversing repressed beta cell function

Special Considerations

The approach and criteria proposed to validate targets in an accelerated timeframe will be specifically assessed.

Preference will be given to studies focused evaluating targets with readily available therapeutics and validated PK/PD.

Collaborative projects are highly encouraged, and preference will be given to proposals that combine the expertise of laboratories new to the T1D field with those already established in the study of T1D.

To incentive the inclusion of targets and mechanisms studied by investigators and laboratories from other fields, researchers that are not currently working in T1D are strongly encouraged to apply.

If the use of animal models is proposed as part of the research plan, preference will be given to those that will utilize advanced genomics techniques such as CRISPR to employ a transgenic, knockout, or reporter strategy in a T1D-relevant model (over longer-term congenic crossing of strains).

New to T1D?

Introduction to T1D experts for potential collaborations during full-proposal phase of application.

Guidance on the available resources for human islet cells and tissue (NPOD, HPAP, iPSC-derived beta cells).

Guidance on the use of common T1D-specific animal models (NOD mice, BB rats, streptozotocin-mediated beta cell loss, BDC2.5 Transgenic models, humanize mouse models, etc).

Collaborative discussion on project design, development of specific aims, and research strategy.

Out of Scope

Studies that focus on targets or mechanisms (genes, proteins, etc.) that have previously been explored for a role in T1D

Studies focused solely on broad phenotyping of knockout or transgenic models that do not directly measure T1D outcomes, onset, or changes in established T1D model systems (Ex- NOD, beta cell depletions, etc).

Applicant Eligibility

Investigators, pre-formed teams, organizations, and companies with demonstrated expertise to carry out the proposed research

JDRF welcomes applications from all qualified individuals and encourages applications from members of groups underrepresented in the sciences.

Applicants must hold an M.D., D.M.D., D.V.M., Ph.D., or equivalent and have a faculty position or equivalent at a college, university, medical school, or other research facility.

Domestic and foreign non-profit organizations, public and private, such as universities, colleges, hospitals, laboratories, industry, units of state and local governments, and eligible agencies of the federal government

No citizen requirements for this program.

Award Mechanism

Strategic Research Agreement (SRA)

Designed to provide research funding for single or multiple investigators to address critical gaps and challenges and potential breakthroughs in T1D research. The SRA is a partnership between investigators and JDRF scientists to help address roadblocks and accelerate JDRF's mission through support of cutting-edge scientific investigation.

Industry Discovery & Development Partnership (IDDP)

Designed to provide support to for-profit entities for research programs that are closely aligned with JDRF's priority areas. Intended to foster long-term collaborative relationships between JDRF, industry partners, and the T1D community.

Potential IDDP partners must reach out to JDRF Scientific Staff prior to submitting an LOI.

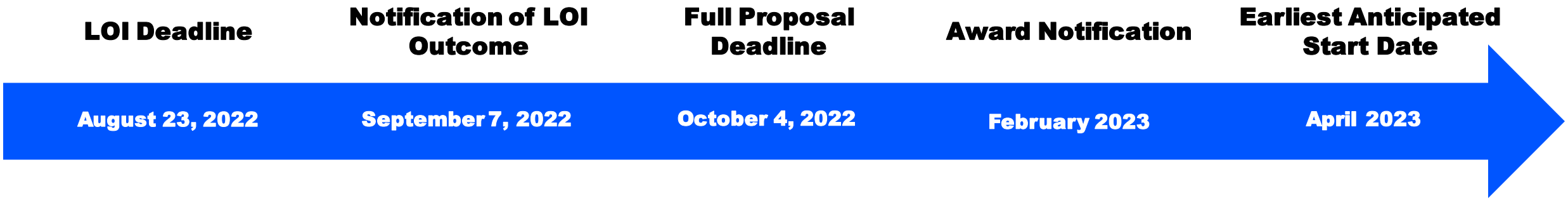
This Award:

Projects should not exceed $750,000.00 USD, including 10% indirect costs (SRA Only), total for up to three years.

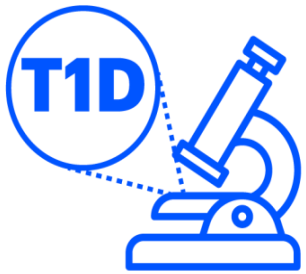
The level of funding will vary depending on the scope and overall objectives of the proposal.

If project costs exceed $750,000.00, you must discuss with JDRF scientists prior to submitting an LOI.

Submission/Award Timeline



Tips for Success



Realignment of Established Targets & Mechanisms for Delaying or Reversing T1D

1) Familiarize yourself with T1D literature as it may relate to your proposed target/mechanism
2) No need to spend ½ page of 2-page LOI describing T1D, the prevalence of the disease, or the need for further developed therapies.
3) Describe the previous work performed in your laboratory on the proposed target/mechanism, and how this will translate to:
   A. Accelerated discovery or preclinical research in T1D that builds upon your previous work findings
   B. A novel approach that may represent a breakthrough in T1D research
4) Design a research plan with clear criteria for validating the target or mechanism in T1D
5) If possible, describe how your research plan will move the assessment of the target along the research pipeline (Validation to Proof of Principle, Preclinical Research in animal model to verification in human tissue or a humanized model).

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THANK YOU!

Any Questions?

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