

ALBERTA DIABETES INSTITUTE
ISLETCORE PROGRAM
ORGANIZATIONAL OVERVIEW



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ISLETSCORE PROGRAM
ORGANIZATIONAL OVERVIEW

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INTRODUCTION

Who We Are

In Canada, over two million people have diabetes. Diabetes researchers are particularly interested in the mechanisms by which groups of insulin-producing cells, called **pancreatic islets**, function to regulate blood glucose. This process is disrupted in diabetes and further understanding of **islet biology** may provide insights into treatments for this epidemic disease. Rodents are a common source of islets for research studies. However, translating findings from rodents to humans is not straight-forward. The ideal islets for researchers to study come from **human donors**.

Alberta Diabetes Institute IsletCore was launched in 2010 with the goal of isolating, distributing, and biobanking insulin-producing pancreatic islets from donor organs that cannot be used for clinical transplantation. ADI IsletCore is located at the University of Alberta in Edmonton, Alberta, Canada and is one of the world's largest centers for islet isolation and distribution **exclusively for research**. We currently provide services to over 170 research groups globally.

Our program has grown to include the provision of **biobanked samples** and additional pancreas-associated tissues.

WHAT WE OFFER

at ADI IsletCore



FRESH ISLETS

High purity, research-grade human islets from donors with and without diabetes at cost-recovery pricing.



FROZEN ISLETS

Cryopreserved and snap-frozen human islets for expression, -omics, and select functional studies.



BLOCKS & SLIDES

Paraffin-embedded pancreas biopsies and isolated islets. Custom fixation available upon request.



TISSUE SAMPLES

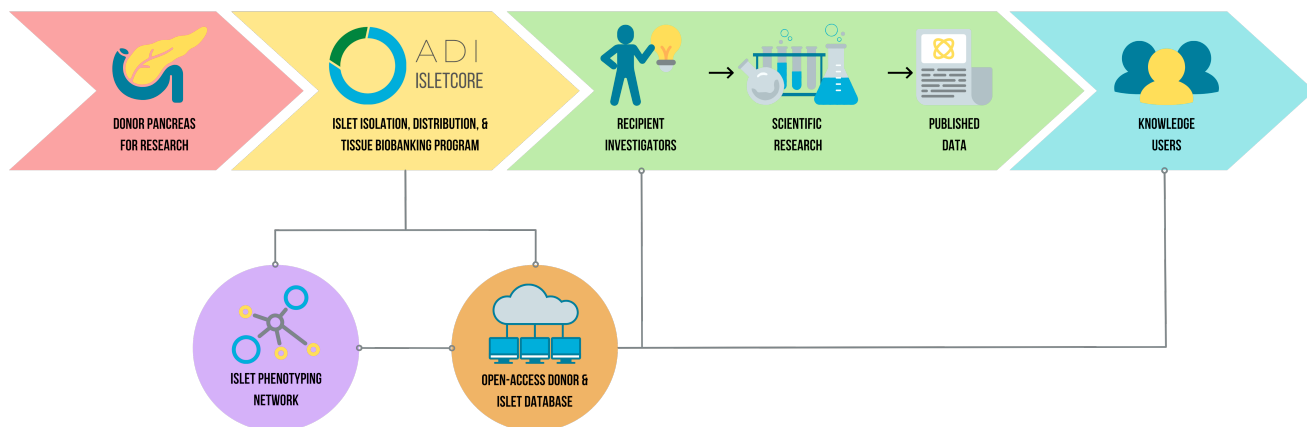
Samples of intestine, spleen, adipose, lymph nodes, and blood. Custom processing available upon request.



FUNCTIONAL DATA

Whole islet insulin secretion and single beta-cell function assays performed on every preparation.

The program manages an application process to establish [researcher eligibility](#) in order to receive islet shipments; informs researchers of islet availability; supplies islets, associated tissues, and data; and manages a [cost-recovery system](#) through fees collected from program recipients. We are committed to [accessible](#) and [transparent](#) collection and reporting of human islet donor characteristics, and share data relating to basic donor information, quality measures, our biobank inventory, and functional analyses that are performed both in-house, as well as with a network of collaborators on every islet preparation.



Human islets remain an essential resource for [diabetes research](#) to advance our understanding of human islet cell biology and to promote the development of new therapies for the prevention and treatment of diabetes. To this end, ADI IsletCore provides the following [products and services](#):

- Freshly-isolated human pancreatic endocrine (islet) and exocrine (acinar) tissue from a range of donors, spanning the spectrums of age, BMI, HbA1c, and diabetes status
- Fresh tissue samples from human pancreas, white adipose tissue, intestine, pancreatic lymph nodes, spleen, and blood
- Fixed and embedded sections of human pancreas and islets
- Cryopreserved human pancreatic islets
- Snap-frozen human pancreatic islets
- Donor metadata, technical parameters, and functional characterization
- Advice and support in the handling of pancreatic islets; experimental design consultation and support
- Research collaboration and custom sample acquisition

We are proud to contribute to the important scientific discoveries of laboratories across the world and strive to support research and discovery in human islet biology well into the future.

PLANNING AND MANAGEMENT

ADI IsletCore is dedicated to supporting the Canadian and international scientific community in advancing [diabetes and transplant research](#). This will be achieved by isolating, distributing, and biobanking the highest quality [human pancreatic islets](#) and associated tissues, as well as by providing value-added data, expertise, and service.

Vision

- Lead in diabetes research worldwide by providing high-quality human research tissue via a sustainable, ethical, and user-focused biobanking program
- Increase access to pancreases processed from donors with and without diabetes in order to meet the growing needs of the scientific community
- Model scientific initiatives that promote collaboration, transparency, quality, and reproducibility in human islet biology and diabetes research

Goals

- Develop a non-profit business model that ensures long-term financial sustainability
- Establish and maintain internal governance structures that will help manage and direct continued growth
- Implement a process for renewal and review of user material transfer agreements
- Perform gap analysis to identify further program needs and potential deficiencies
- Develop and maintain an open-access data-sharing platform

Values

- [Gratitude](#): we appreciate the gifts that build our program and treat our resources with the highest regard.
- [Respect](#): we work with integrity, professionalism, and inclusivity.
- [Collaboration](#): we work together to foster relationships and mutualism in research.
- [Integrity](#): we are transparent in our actions and produce a reliable, quality product while ensuring our policies and procedures are compliant with all regulatory bodies.
- [Growth](#): we seek to improve ourselves and our program through continuous learning and constant innovation.
- [Service](#): we aim to provide the best possible experience for our users by being professional, efficient, and thorough in our interactions.

Legal Structure and Stakeholders

ADI IsletCore exists as a core program within the Alberta Diabetes Institute (ADI), under the ADI Director and adjacent to the Director of Operations (“Core Directors”).

Positioning of the ADI within the Faculty of Medicine and Dentistry, which is housed in the College of Health Sciences at the University of Alberta is shown below. ADI IsletCore is bound by the policies and regulations of the University of Alberta, as detailed [here](#).

ADI IsletCore implements best practices of [ethics and consent](#), with permitted access and uses of human tissue with organ procurement organizations, including:

- Alberta Health Services (Give Life Alberta)
- Ontario Health (Trillium Gift of Life)
- BC Transplant
- Transplant Manitoba Gift of Life Program
- Transplant Québec
- Multi-Organ Transplant Program
- Nova Scotia Health Authority

Other non-binding [stakeholders](#) include:

- Organ donors and families
- Patient partners
- ADI IsletCore External Advisory Board
- Network of tissue users and collaborators

OPERATING PLAN

Organizational Structure

ADI IsletCore is overseen by the ADI IsletCore Director and the Internal Governance Committee, with external guidance from an External Advisory Board and Patient Partners. Within the ADI IsletCore team, we operate on a fairly-level organizational structure with [limited hierarchy](#). Team members operate within [different silos](#) (technical, scientific, and administrative) with certain members operating within two or more (see “Human Resources”). Being a small team, we deliberately create overlap and redundancy between roles, to facilitate continued operations during illness, vacation, et cetera.

Internal Governance Committee (IGC)

ADI IsletCore established its own internal governance committee in 2024. This group meets quarterly to discuss and approve ADI IsletCore’s [plans and initiatives](#), and to provide [checks and balances](#) for the program. ADI IsletCore is expected to comply with any recommendations or requirements the committee may make.

The IGC ensures sustainability of ADI IsletCore’s financial model; ensures the program supports quality research; aligns the scope and strategic initiatives of the program with the requirements of the stakeholder groups; oversees compliance with relevant policies; advises on contingency and legacy plans; identifies risks and risk-management strategies; and recommends and recruits other committee members.

The current IGC is comprised of:

- Dr. Patrick MacDonald, ADI IsletCore Director
- Tina Dafoe, ADI IsletCore Program Coordinator
- Dr. Peter Senior, Alberta Diabetes Institute Director
- Dr. Vince Rogers, Alberta Diabetes Institute Director of Operations
- Dr. Rebecca Hull-Meichle, CERC in the Islet Microenvironment

In the future, we are open to the possibility of [adding expertise](#)—either directly on this committee or through integration with others—in legal affairs and contracts, business, and human research ethics and privacy, as deemed necessary. To fulfill such needs for now, the IGC works closely with the Research Ethics Office, Research Administrative Services, and others within the VP Research and Innovation (VPRI) office.

External Advisory Board (EAB)

Meeting twice a year, the role of the EAB is to provide feedback on the activities of ADI IsletCore, as well as suggestions for ongoing development and direction. Membership of the EAB is by selection. There are four members at any one time, each knowledgeable in the field of islet biology, but working at [arms-length](#) from ADI IsletCore. EAB members are drawn from different geographic locations, with representatives from Canada, US and Europe.

The current EAB is comprised of:

- Dr. Lena Eliasson, Lund University
- Dr. Raghu Mirmira (Chair), University of Chicago
- Dr. Vincent Poitout, University of Montreal
- Dr. Debbie Thurmond, City of Hope

Patient Partners

Patient Partners (PPs) are individuals with [lived experience](#) of diabetes or diabetes care. We engage PPs in our program with the assistance of Diabetes Action Canada and the Alberta SPOR SUPPORT Unit. The PPs' role is to inform and guide our research priorities and provide insight on topics such as the dissemination of research findings. Annual focus groups are held with PPs and reports are shared with the IGC, EAB, and collaborators.

Currently, ADI IsletCore is working closely with ADI management on an internal patient engagement initiative, which in theory would give ADI members access to the perspectives of an in-house group of patient partners. This would also include the implementation of a Patient Engagement Advisory Committee to provide oversight and administration. This initiative is still in the proposal stages as of the time of publication, but has been identified as a priority of the ADI.

Management

ADI IsletCore is led by the [Director](#), whose roles include scientific leadership, funding acquisition, resource and talent management, and strategic direction. The Director is supported by the [Program Coordinator](#), who provides administrative leadership and oversees daily operations, with a focus on external communications and user service. [Technical staff](#) perform tissue-processing and quality assessments, acting as specialist resources in their areas of expertise. Consulting services, related to their expertise, may also be provided to internal and external users and collaborators.

ADI IsletCore's approach to management is guided by its values of [gratitude, trust, respect, collaboration, growth, and service](#). The management approach promotes staff independence and autonomy within a highly collaborative and supportive environment. Team members are encouraged to have confidence in their abilities and knowledge, while acknowledging the benefits of each-others' experience and ideas. Above all, [respect and communication](#) are key values we seek to develop as a team.

We provide a [flexible work environment](#), recognizing the impacts of working within the organ donation field and the inherent scheduling irregularities. Team members are able to work in an in-office/at-home hybrid manner, and have [self-determination](#) in their balance of the frequent need to work outside regular office hours, with time in lieu.

Our team members are trusted to organize and complete their tasks in an efficient and effective manner, with [minimal oversight](#). The risks of this approach include the potential for abuse of this flexibility, and an individualized approach may be necessary in future. However, the current team's [passion and commitment](#) enables the current work structure to be successful. As a testament to our positive working environment, all five of our full-time members are [long-term employees](#), with years of service to ADI IsletCore ranging between 10 and 14.

In our external-facing interactions, ADI IsletCore strives to provide [professionalism and clarity](#) in our communications. We are solution-driven and offer a flexible and collaborative approach in order to achieve positive outcomes for our users.

Staff development is fostered through formal and informal training opportunities. These include, but are not limited to: weekly meetings and seminars, scientific workshops and conferences, manuscript and grant preparation, career development courses offered by the University of Alberta, and volunteer and community service opportunities.

Research and Development

ADI IsletCore research projects are undertaken by the technical team with oversight from the scientific team. Research projects may be initiated in-house or by external collaborators. [Overarching research goals](#) include: improving islet isolation outcomes, understanding cell biology of the pancreas, and advancing scientific knowledge relating to diabetes and transplantation. Biannual reports to the EAB and IGC enable feedback and input from these groups on research progress and direction.

New technologies, tools, and processes are developed in response to internal performance audits or external advances in the field. We continually seek to [improve our efficiency](#), particularly in the administration of the program. We encourage observations from staff regarding the potential for improved efficiency and are open to implementing strategies to achieve this. Increasingly, we make use of [digital tools](#) such as the Google Suite, REDCap database, and University of Alberta software to organize and automate processes.

Logistical or operational changes, such as shipping changes or new islet culture media, are often trialed before full implementation, with feedback sought from our users. Ongoing consultation with competitors and collaborators provides a source of inspiration, enabling us to test novel processes in our own hands before fully implementing any changes.

Production

ADI IsletCore production is undertaken by the technical and administrative teams. We operate from a [specialized facility](#) within the Alberta Diabetes Institute. Major equipment and replacement costs are kept on record. Our service process—what users can expect from ADI IsletCore and our projects—is outlined on [our website](#) and in our [Welcome Booklet](#).

Key goals include: maximizing organ usage, increasing the range of donors (particularly those with diabetes), quality assurance (yield, purity, sterility), maintaining process transparency and reproducibility, and sharing data. Our acceptance of organs is guided by an internal standard operating procedure (SOP). To this end, we follow SOPs that outline the [technical and quality control](#) aspects of our program. In addition, our [publicly-available protocols](#) facilitate in-house consistency of production and external reproducibility.



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