

Maximizing Your nPOD Sample Request: Using Online Pathology and DataShare to Select the Right Cases for Your Study

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Objectives

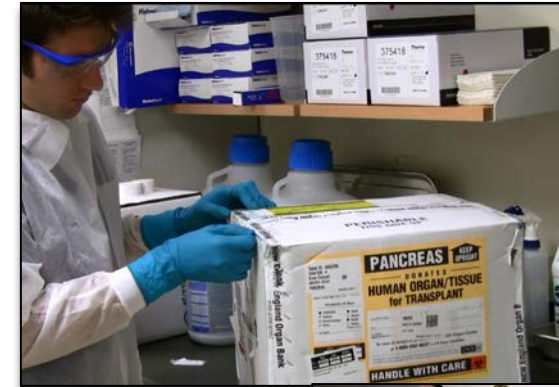
- Review OPPC functions and case processing
- Find cases of interest
- Review donor clinical history
- View images using Online Pathology
- Order samples using DataShare

Resources

- Previous webinars
 - www.jdrfnpod.org/for-investigators
 - Online Pathology Information
 - Request Samples via DataShare
- Video tutorials – DataShare Getting Started tab
 - <https://npoddatashare.coh.org/labkey/project/home/begin.view?>
- Sample request guidelines – DataShare Specimen Inventory tab
- E-mail
 - npod@pathology.ufl.edu

Core Activities

- Receive and process organs for fresh, frozen, and fixed tissue samples.
 - We accept cases 24/7!
- Perform cell isolation and prepare serum and plasma.
- Screen tissue by immunohistochemistry.
- Scan whole slides to preserve digital images.
- Quality Control screening of all tissues received including DNA, RNA and Cell Viability analysis.



Investigator Support

- Distribute samples to investigators with nPOD approved projects
- Maintain DataShare and Online Pathology databases
 - Provide clinical information and laboratory results for each donor
 - Interpretive reviews of histopathology (Courtesy of Dr. Martha Campbell-Thompson)
 - Access to investigator data and publication links
 - On-line ordering system for samples

nPOD Sample Types

Pancreas

Spleen

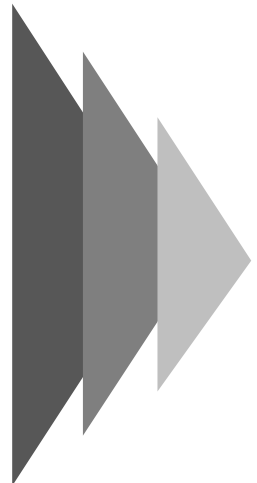
Duodenum

PLN

nonPLN

Serum

Whole blood



OCT
Fresh Tissue
Blocks
frozen in OCT
media



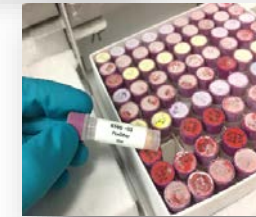
Paraffin
Formalin-Fixed
Paraffin-
Embedded
Tissue blocks



Fresh
Tissue



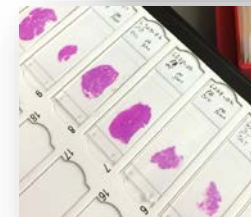
Snap Frozen
Vials with or
without
RNALater



Cryopreserved
Cells

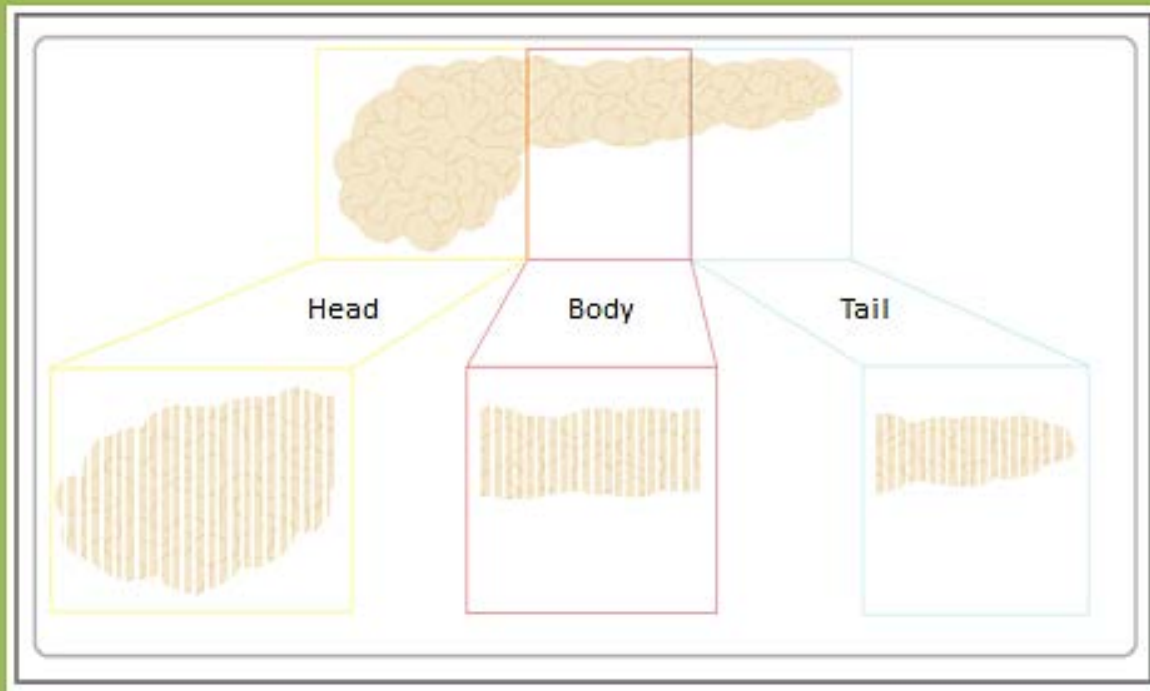


Paraffin or
OCT
Slides

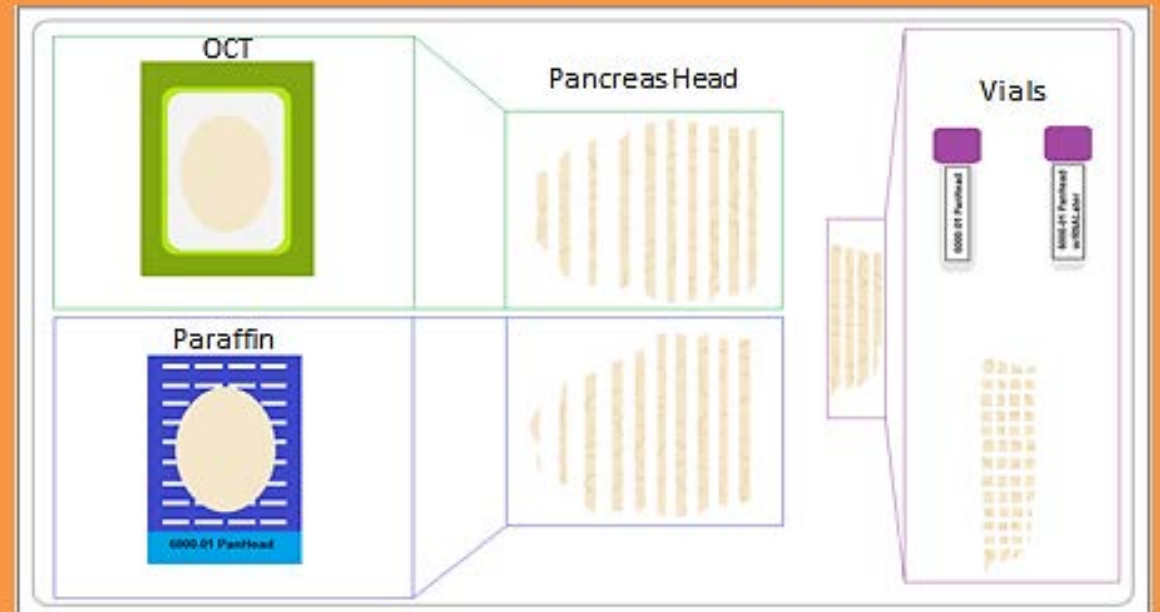


Case Processing Basics

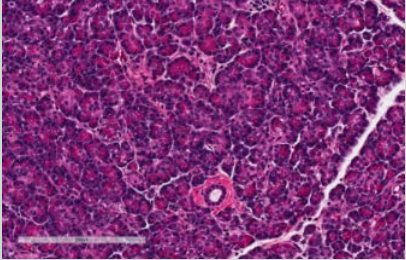
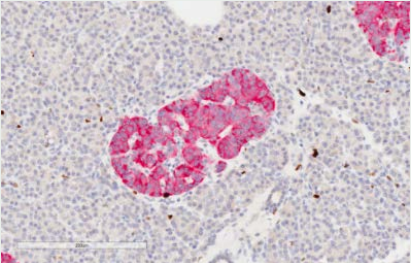
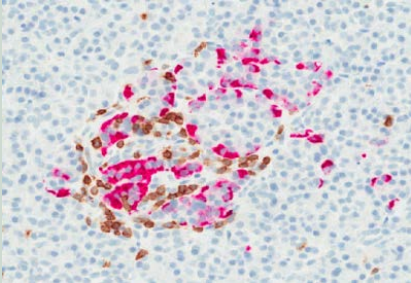
Sectioning of Pancreas



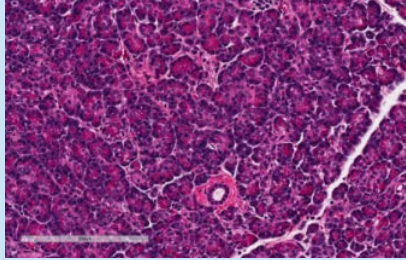
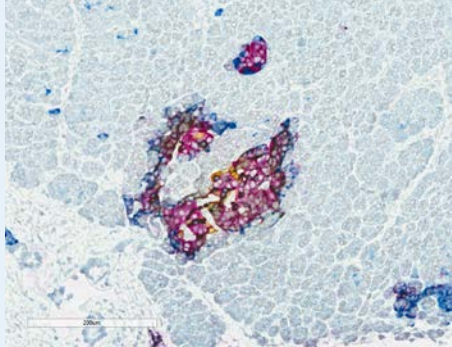
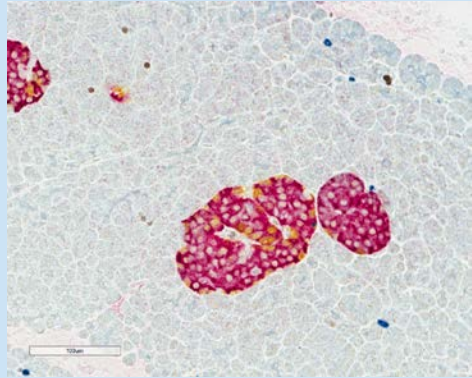
Dividing tissue into OCT, Paraffin & Vials



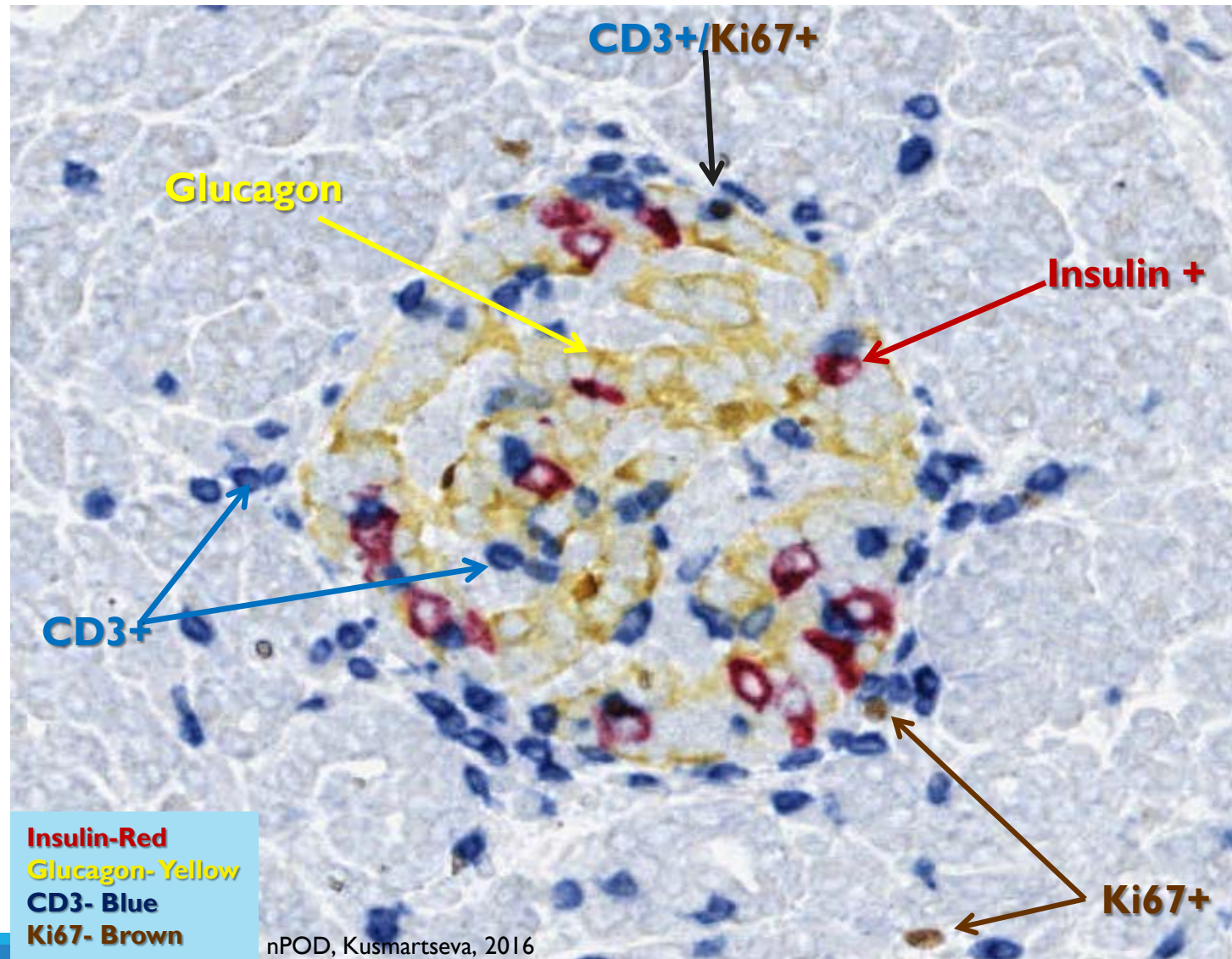
Previous Screening Panel

Stain	What does it show?	Example
H&E	General Morphology of the Tissue.	 A histological image showing a pancreatic islet stained with hematoxylin and eosin (H&E). The islet is a cluster of cells with a distinct, darker purple color compared to the surrounding acinar tissue. A white scale bar is visible in the bottom left corner.
Ki67+Insulin	Insulin: Are there still insulin-producing Beta cells in the islet? Ki67: Is there cell proliferation?	 A histological image showing a pancreatic islet stained for Ki67 (brown) and Insulin (red). The islet is a cluster of cells with a distinct, darker color compared to the surrounding acinar tissue. A white scale bar is visible in the bottom left corner.
CD3+Glucagon	Glucagon: Are there still glucagon-producing Alpha cells in the islet? CD3: Are there T-cells present and if yes, are they attacking islets?	 A histological image showing a pancreatic islet stained for CD3 (brown) and Glucagon (red). The islet is a cluster of cells with a distinct, darker color compared to the surrounding acinar tissue. A white scale bar is visible in the bottom left corner.

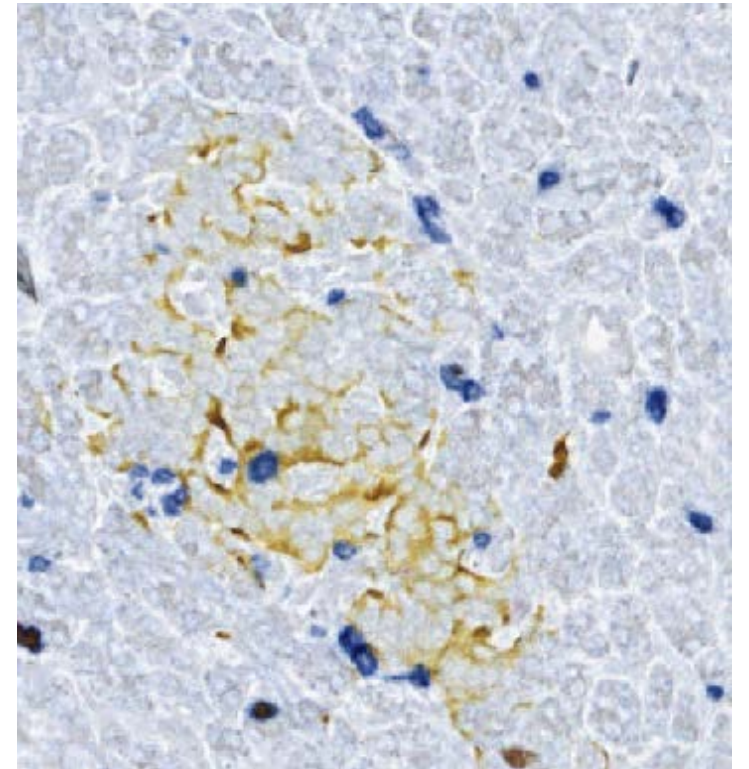
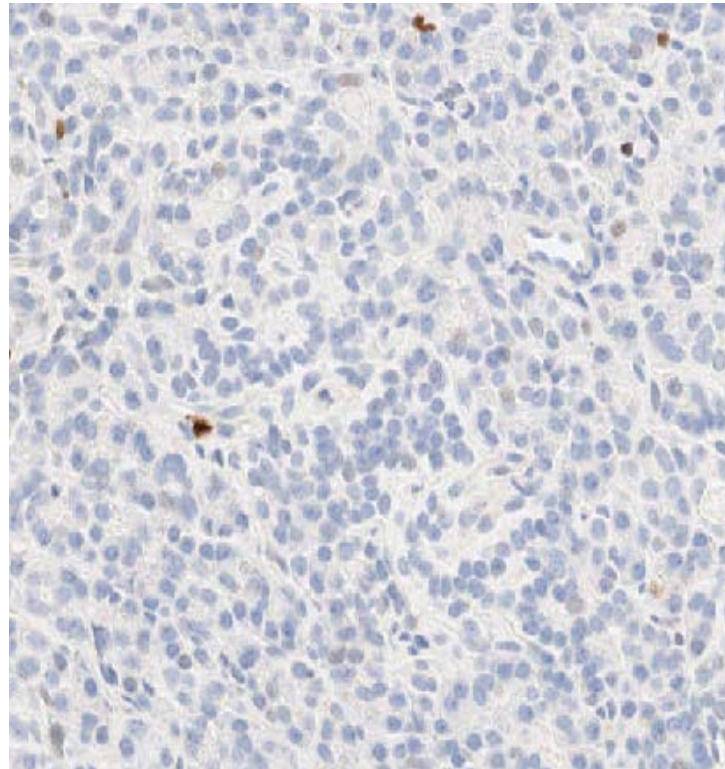
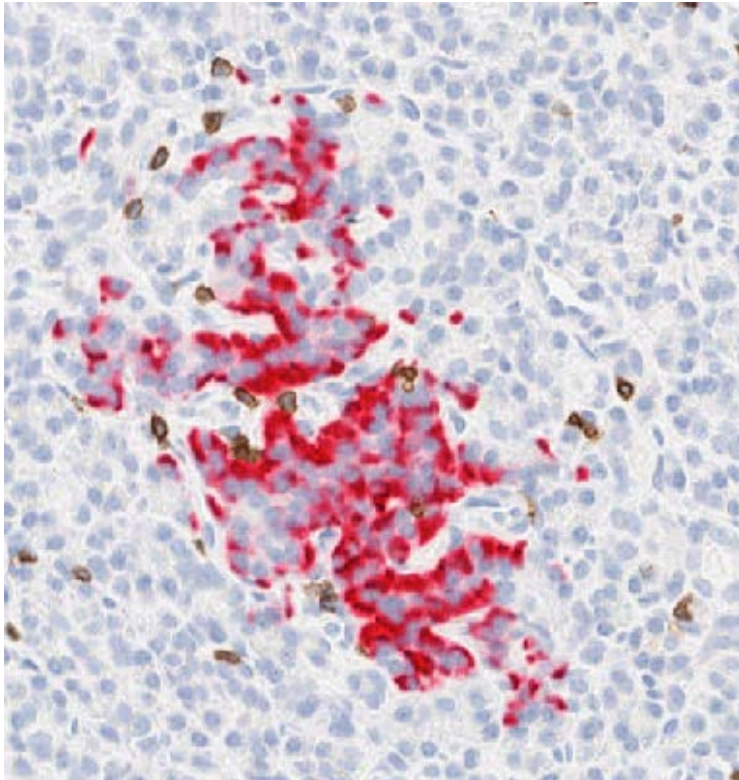
Current Screening Panel

Stain	What does it show?	Example
H&E	General Morphology of the Tissue.	 A histological micrograph showing a pancreatic islet stained with hematoxylin and eosin (H&E). The islet is a cluster of cells with a distinct, darker purple color compared to the surrounding acinar tissue. A white scale bar is visible in the bottom left corner.
Somatostatin+Insulin+Pan Polypeptide+Glucagon	Hormone-producing Beta, Alpha, Delta, or PP cells in the islets.	 An immunofluorescence micrograph of a pancreatic islet. The islet is stained with multiple colors (red, green, blue) to highlight different hormone-producing cell types. The surrounding acinar tissue is stained blue. A white scale bar is visible in the bottom left corner.
Ki67+Insulin+CD3+Glucagon	Hormone-producing Beta or Alpha cells in the islets. Ki67: Is there cell proliferation? CD3: Are there T-cells present and if yes, are they attacking islets?	 An immunofluorescence micrograph of a pancreatic islet. The islet is stained with multiple colors (red, green, blue) to highlight different cell types. The surrounding acinar tissue is stained blue. A white scale bar is visible in the bottom left corner.

Insulin Positive Islet with Insulinitis - Case 6198 - T1D 3 year duration



Insulin Negative Islet with Isletitis



nPOD, Kusmartseva, 2016

Special Requests

- Screen new blocks or blocks that have not been cut yet
 - Contact us prior to ordering
- Special stains
 - Congo red – amyloid
 - Carbol Chromotrope – eosinophils
 - CD markers
 - Cytokeratin

Online Pathology

- View slides from browser using Webscope or free ImageScope software
 - Internet Explorer recommended
 - ImageScope free download: <http://www.leicabiosystems.com/digital-pathology/digital-pathology-management/imagescope/>
 - Only Webscope will work on Mac
- Annotate images and take snapshots
- View clinical history and pancreas histology concurrently
- Advanced search function

Sample Ordering via DataShare

- View detailed clinical histories
- View active projects for each case
- Search for available samples
- Use shopping cart and monitor request status

The screenshot displays the nPOD DataShare web application interface. The header includes the nPOD logo (Network for Pancreatic Organ Donors with Diabetes), a search bar, and a shopping cart icon. The main navigation bar contains tabs for 'nPOD DataShare', 'nPOD Case Histories', 'Reports & Research Data', 'Specimen Inventory', and 'Manage'. The central content area is divided into three main sections: 'Important Sample Request Guidelines', 'nPOD CaseID Tools', and 'nPOD Sample Search'. The 'Important Sample Request Guidelines' section contains a list of four guidelines for maximizing the use of the nPOD Biobank. The 'nPOD CaseID Tools' section includes buttons for 'NEW NPOD CASEID', 'EDIT NPOD CASEID', 'MANAGE FORM', and 'MANAGE SAMPLE COLUMNS'. The 'nPOD Sample Search' section features a form with fields for 'nPOD CaseID', 'Donor Type', 'Sample Type', 'Aliquot Type', 'Sex', 'Race', 'Age', and 'BMI'. On the right side, there are two panels: 'Distribution Management' with links for 'Distribution Dashboard', 'Sample Status Change Management', 'Sample Derivatives', and 'nPOD Projects'; and 'Top 10 Availability List' which includes a donut chart for 'Cases' and a bar chart for 'Aliquots'.

Important Sample Request Guidelines (Please read before placing the order)

The below guidelines and tips have been prepared to maximize the use of the nPOD Biobank for all current and future studies:

1. The maximum number of slides per block per request is 10. Requests exceeding 300 total slides per request will require OPPC approval. For certain cases in high demand, the maximum per block and total numbers may need to be reduced. Please be conservative and order the minimum number of slides anticipated to complete your assay(s). Co-labeling of slides are encouraged.
2. Although you will be able to view the contents of the entire specimen inventory, requests will not be honored for donor types, sample types, and aliquot types not previously approved for use in your nPOD project.
3. Do not use T1D slides as assay positive or negative controls; instead, use blocks from available disease free cases as assay controls.
4. All requests for specimens from cases with the "Limited" status will require further justification and nPOD Tissue Prioritization Committee approval prior to distribution.

nPOD CaseID Tools

NEW NPOD CASEID
EDIT NPOD CASEID
MANAGE FORM
MANAGE SAMPLE COLUMNS

nPOD Sample Search

nPOD CaseID:
Donor Type:
Sample Type:
Aliquot Type:
Sex:
Race:
Age:
BMI:

Distribution Management

Distribution Dashboard
Sample Status Change Management
Sample Derivatives
nPOD Projects

Top 10 Availability List

Cases

Aliquots

Aliquot Type	Count
Paraffin	6552
OCT	6008
Vial	4054

Live Demo

- <http://www.jdrfnpod.org/for-investigators/>
- <http://ahc-path-apr01.ahc.ufl.edu/Login.php>
- <https://npoddatashare.coh.org/labkey/login/home/login.view>