# Test Definition: ISLET

Islet 1 Immunostain, Technical Component Only

## Overview

### Useful For
Identification of endocrine tumors

### Reflex Tests

| Test Id | Reporting Name | Available Separately | Always Performed |
|---|---|---|---|
| IHTOI | IHC Initial, Tech Only | No | No |
| IHTOA | IHC Additional, Tech Only | No | No |

### Testing Algorithm
For the initial technical component only immunohistochemical (IHC) stain performed, the appropriate bill-only test ID will be reflexed and charged (IHTOI). For each additional technical component only IHC stain performed, an additional bill-only test ID will be reflexed and charged (IHTOA).

### Method Name
Immunohistochemistry (IHC)

### NY State Available
Yes

## Specimen

### Specimen Type
TECHONLY

### Ordering Guidance
This test includes only technical performance of the stain; **no pathologist interpretation is provided**.

Technical component only stains **should not** be ordered with PATHC / Pathology Consultation. If ordered with PATHC, the technical component stains **will be canceled**. Any immunohistochemistry (IHC)/in situ hybridization (ISH) stain performed as a part of the PATHC will be performed at the reviewing pathologist's discretion at an additional charge.

### Shipping Instructions
Attach the green "Attention Pathology" address label (T498) and the pink Immunostain Technical Only label included in the kit to the outside of the transport container.

### Specimen Required
**Specimen Type:** Tissue

**Supplies:** Immunostain Technical Only Envelope (T693)
**Container/Tube:** Immunostain Technical Only Envelope
**Submit:**
-Formalin-fixed, paraffin-embedded tissue block
OR
-2 Unstained, positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick
**Additional Information:** Broken or cracked unstained slides will be rejected. Stained slides that were broken and repaired (ie, double mounted) at the client site will not be rejected, as, in most cases, they can still be reviewed under the microscope. However, due to the double mounting, digital scanning cannot be performed.

## Digital Image Access

1. Information on accessing digital images of immunohistochemical (IHC) stains and the manual requisition form can be accessed through this website: https://news.mayocliniclabs.com/pathology/digital-imaging/
2. Clients ordering stains using a manual requisition form will not have access to digital images.
3. Clients wishing to access digital images must place the order for IHC stains electronically. Information regarding digital imaging can be accessed through this website: https://news.mayocliniclabs.com/pathology/digital-imaging/#section3

## Forms

If not ordering electronically, complete, print, and send a Immunohistochemical (IHC)/In Situ Hybridization (ISH) Stains Request (T763) with the specimen.

## Reject Due To

| | |
|---|---|
| Wet/frozen tissue | Reject |
| Cytology smears | Reject |
| Non-formalin fixed tissue | Reject |
| Nonparaffin embedded tissue | Reject |
| Noncharged, ProbeOn or Snowcoat slides | Reject |
| Broken or cracked unstained slides | Reject |
| Broken or cracked stained slides that cannot be | Reject |

| | |
|---|---|
| repaired | |

### Specimen Stability Information

| Specimen Type | Temperature | Time | Special Container |
|---|---|---|---|
| TECHONLY | Ambient (preferred) | | |
| | Refrigerated | | |

## Clinical & Interpretive

### Clinical Information

Islet 1 is a homeobox-gene-related transcription factor involved in the development of the endocrine pancreas. Islet 1 is expressed in endocrine pancreas, subsets of neurons of the adrenal medulla, and dorsal root ganglion cell layers in the retina, the pineal gland, and some areas of the brain. Islet 1 is a useful marker as it is positive in the majority of pancreatic endocrine tumors.

### Interpretation

This test does not include pathologist interpretation, only technical performance of the stain. If interpretation is required, order PATHC / Pathology Consultation for a full diagnostic evaluation or second opinion of the case.

The positive and negative controls are verified as showing appropriate immunoreactivity.

Interpretation of this test should be performed in the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

### Cautions

Age of a cut paraffin section can affect immunoreactivity. Stability thresholds vary widely among published literature and are antigen dependent. Best practice is for paraffin sections to be cut within 6 weeks.

The charge of glass slides can be affected by environmental factors and subsequently may alter slide staining. Sending unsuitable glass slides can result in inconsistent staining due to poor slide surface chemistry.

Best practices for storage of positively charged slides:
-Minimize time slides are stored after being unpackaged
-Limit exposure to high humidity and heat
-Minimize exposure to plastics

Broken or cracked unstained slides are not compatible with the instrumentation used in our performing laboratories and will be rejected. Additional material may be requested.

Attempts will be made to repair broken or cracked stained slides; however, if they are unable to be repaired (ie, shattered in transit), they will be rejected and discarded due to safety concerns.

### Clinical Reference

1. Du A, Hunter CS, Murray J, et al. Islet-1 is required for the maturation, proliferation, and survival of the endocrine pancreas. Diabetes. 2009;58:2059-2069. doi:10.2337/db08-0987
2. Schmitt AM, Riniker F, Anlauf M, et al. Islet 1 (Isl1) Expression is a reliable marker for pancreatic endocrine tumors and their metastases. Am J Surg Pathol. 2008;32(3):420-425. doi:10.1097/PAS.0b013e318158a397
3. Albarello L, Zerbi A, Capitanio V, et al. Transcription factors islet-1, Pax6, Nkx6.1, MafB and Pdx-1 in pancreatic endocrine tumors. JOP. 2008;9(6) Supplement:773
4. Koo J, Mertens R, Mirocha J, et al. Value of islet 1 and PAX8 in identifying metastatic neuroendocrine tumors of pancreatic origin. Mod Pathol. 2012;25:893-901. doi:10.1038/modpathol.2012.34
5. Magaki S, Hojat SA, Wei B, So A, Yong WH. An introduction to the performance of immunohistochemistry. Methods Mol Biol. 2019;1897:289-298. doi:10.1007/978-1-4939-8935-5_25

## Performance

### Method Description

Immunohistochemistry on sections of paraffin-embedded tissue.(Unpublished Mayo method)

### PDF Report

No

### Day(s) Performed

Monday through Friday

### Report Available

1 to 3 days

### Specimen Retention Time

Until staining is complete.

### Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

## Fees & Codes

### Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

### Test Classification

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per

manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

### CPT Code Information

88342-TC, primary
88341-TC, if additional IHC

### LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---|---|---|
| ISLET | Islet 1 IHC, Tech Only | Order only;no result |

| Result ID | Test Result Name | Result LOINC® Value |
|---|---|---|
| 70790 | Islet 1 IHC, Tech Only | Bill only; no result |