**Overview**

**Useful For**
Detection of pancreatic endocrine tumors
Assessment of vagal nerve function after meal or sham feeding

**Method Name**
Radioimmunoassay (RIA)

**NY State Available**
Yes

**Specimen**

**Specimen Type**
Plasma EDTA

**Ordering Guidance**
This test should not be requested on patients who have recently received radioactive materials.

**Necessary Information**
Patient's age must be provided.

**Specimen Required**

**Patient Preparation:** Fasting (8 hours)

**Collection Container/Tube:** Lavender top (EDTA)

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 3 mL

**Collection Instructions:**
1. Place specimen on wet ice and keep cold at all times following collection.
2. Centrifuge (refrigerated centrifuge is not required) and aliquot plasma into plastic vial. Freeze immediately.

**Forms**
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

**Specimen Minimum Volume**
0.35 mL

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
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</table>
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen</td>
<td>90 days</td>
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Clinical and Interpretive

Clinical Information

Pancreatic polypeptide (PP) is secreted by the pancreas in response to hypoglycemia, ingestion of food, or "sham" feeding (food is chewed, but not swallowed) secondary to vagal nerve stimulation. Secretion is blocked by vagotomy or atropine.

The exact physiologic role of PP is undetermined, although the hormone is thought to be involved in exocrine pancreatic secretion and gallbladder emptying.

Markedly elevated levels are often associated with endocrine tumors of the pancreas (eg, insulinoma, glucagonoma, PPoma: pancreatic polypeptide-secreting tumor of the pancreas) Patients with diabetes may also have elevated PP levels.

A lack of response to sham feeding may indicate vagal nerve damage (eg, surgery-related nerve damage, autonomic nerve disorders). Extensive pancreatic destruction (eg, chronic pancreatitis, pancreatic cancer) may also result in low basal PP levels and a lack of response to sham feeding.

Reference Values

0-19 years: not established

20-29 years: <228 pg/mL

30-39 years: <249 pg/mL

40-49 years: <270 pg/mL

50-59 years: <291 pg/mL

60-69 years: <312 pg/mL

70-79 years: <332 pg/mL

> or =80 years: not established

Interpretation

High levels may be seen in pancreatic endocrine tumors, diabetes, and a nonfasting state. Markedly elevated levels may be seen in some pancreatic exocrine tumors.

A normal response to a sham feeding consists of a rapid pancreatic polypeptide (PP) rise over baseline followed by a
return to baseline. With vagal damage, no increase over baseline is seen.

**Cautions**

Pancreatic polypeptide (PP) normal values increase with age (approximately 20 pg/mL per decade).

Nonfasting state results in falsely elevated values.

The sham feeding test is invalid if food is swallowed. Ingestion of food typically results in a significant and prolonged PP increase over baseline (typically >200 pg/mL).

This test should not be requested in patients who have recently received radioisotopes, therapeutically or diagnostically, because of potential assay interference. A recommended time period before collection cannot be made because it will depend on the isotope administered, the dose given and the clearance rate in the individual patient. Specimens will be screened for radioactivity prior to analysis. Radioactive specimens received in the laboratory will be held and assayed after the radioactivity has sufficiently decayed. This will result in a test delay.

**Clinical Reference**


**Performance**

**Method Description**

A radioimmunoassay technique is used. The assay system utilizes rabbit-antihuman pancreatic polypeptide (PP) antiserum, a standard or patient plasma specimen, and radiolabeled human PP that has been iodinated by a modified Hunter-Greenwood technique. (Unpublished Mayo method)

**PDF Report**

No

**Day(s) Performed**

Monday, Wednesday

**Report Available**

3 to 8 days

**Specimen Retention Time**

3 months

**Performing Laboratory Location**
Fees and 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 Regional Manager. For assistance, contact Customer Service.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

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<tbody>
<tr>
<td>HPP</td>
<td>Pancreatic Polypeptide, P</td>
<td>2721-9</td>
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LOINC® Information

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