MAYO CLINIC LABORATORIES

Test Definition: VIP

Vasoactive Intestinal Polypeptide, Plasma

Overview

Useful For
Detecting vasoactive intestinal polypeptide-producing tumors in patients with chronic diarrheal diseases

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

NY State Available
Yes

Specimen

Specimen Type
Plasma EDTA

Specimen Required
Supplies: Sarstedt Aliquot Tube, 5 mL (T914)
Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions: Centrifuge and aliquot plasma into a plastic vial. Freeze immediately.

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

Specimen Minimum Volume
0.55 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	OK

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Plasma EDTA	Frozen	90 days	

Clinical & Interpretive

Clinical Information

Vasoactive intestinal polypeptide (VIP) was originally isolated from porcine small intestine and was recognized by its potent vasodilator activity. This brain/gut hormone has widespread distribution and is present in neuronal cell bodies localized in the central nervous system, digestive, respiratory, and urogenital tracts, and exocrine, thyroid, and adrenal glands. VIP has a wide scope of biological actions. The main effects of VIP include relaxation of smooth muscle (bronchial and vascular dilation), stimulation of gastrointestinal water and electrolyte secretion, and release of pancreatic hormones.

Vasoactive intestinal polypeptide-producing tumors are rare; most (90%) are located in the pancreas. Watery diarrhea, hypokalemia, and achlorhydria are key symptoms.

Reference Values

<86 pg/mL

Interpretation

An elevated vasoactive intestinal polypeptide (VIP) may indicate the presence of an enteropancreatic tumor causing hypersecretion of VIP.

Vasoactive intestinal polypeptide-producing tumors are unlikely with a 24-hour stool volume below 700 mL.

Cautions

Test results cannot be interpreted as absolute evidence for the presence or absence of malignant disease. Use vasoactive intestinal polypeptide (VIP) results in conjunction with information from the clinical evaluation of the patient and other diagnostic procedures. This test should not be used for cancer screening or cancer diagnosis.

Assay sensitivity may be lower than the previous VIP radioimmunoassay. The absence of elevated VIP does not rule out the presence of malignancy.

In rare cases, some individuals can develop antibodies to mouse or other animal antibodies (often referred to as human anti-mouse antibodies [HAMA] or heterophile antibodies), which may cause interference in some immunoassays. Caution should be used in interpretation of results and the laboratory should be alerted if the result does not correlate with the clinical presentation.

Vasoactive intestinal polypeptide concentration determinations are method dependent. Values obtained with different assay methods or kits may differ and cannot be used interchangeably.

Clinical Reference

1. Smith SL, Branton SA, Avino AJ, et al. Vasoactive intestinal polypeptide secreting islet cell tumors: a 15-year experience and review of the literature. Surgery. 1998;124(6):1050-1055
2. Ghaferi AA, Chojnacki KA, Long WD, Cameron JL, Yeo CJ. Pancreatic VIPomas: subject review and one institutional experience. J Gastrointest Surg. 2008;12(2):382-393
3. Eisenhofer G, Grebe S, Cheung NK, et al. Monoamine-producing tumors. In: Rifai N, Horvath AR, Wittwer CT, eds. Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 6th ed. Elsevier; 2018:1421

4. Una Cidon E. Vasoactive intestinal peptide secreting tumour: An overview. World J Gastrointest Oncol. 2022;14(4):808-819

Performance

Method Description

Vasoactive intestinal polypeptide (VIP) enzyme-linked immunosorbent assay is a two-step competitive immunoassay. VIP in the patient sample competes with a biotin-labelled antigen for a limited number of anti-VIP antibody binding sites on the microplate wells during the first incubation. After a wash step to remove unbound and excess material the samples are incubated with a streptavidin anti horseradish peroxidase conjugate to form a biotin conjugate complex. After washing, an enzyme substrate is added and incubated. Following the incubation, the reaction is stopped by addition of a stopping solution. Antibody-analyte complex is detected by absorbance measurement at 450 nm wavelength. The absorbance measured is inversely proportional to the concentration of VIP in the samples and calibrators.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Monday, Thursday

Report Available

2 to 4 days

Specimen Retention Time

14 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Superior Drive

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

CPT Code Information

84586

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
VIP	Vasoactive Intestinal Polypeptide,P	3125-2

Result ID	Test Result Name	Result LOINC® Value
8150	Vasoactive Intestinal Polypeptide,P	3125-2