
Lab Dept: Chemistry

Test Name: SEROTONIN

General Information

Lab Order Codes: SEROT

Synonyms: N/A

CPT Codes: 84260 – Assay of serotonin

Test Includes: Serotonin, serum level reported in ng/mL.

Logistics

Test indications: In conjunction with, or as an alternative first-order test in the differential diagnosis of isolated symptoms suggestive of carcinoid syndrome, in particular flushing (5-HIAA or serum chromogranin A measurements are first line tests).

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Clinic Laboratories (Mayo test: SER)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 4 – 6 days

Special Instructions: See [Patient Preparation](#)

Specimen

Specimen Type: Blood

Container: SST (Gold, marble or red)

Draw Volume: 7.5 mL (Minimum: 3.3 mL) blood

Processed Volume: 2.5 mL (Minimum: 1.1 mL) serum

Collection: Routine blood collection

Special Processing:	Lab Staff: Centrifuge specimen. Remove aliquot into a screw-capped plastic vial. Store and ship refrigerated.
Patient Preparation:	Patient should be off medications that may affect serotonin concentrations including lithium, monoamine oxidase inhibitors, methyldopa, morphine, and reserpine.
Sample Rejection:	Mislabeled or unlabeled specimens,

Interpretive

Reference Range: < or =230 pg/mL

Critical Values: N/A

Limitations: Since most circulating 5-hydroxytryptamine (5-HT) is contained in platelets, the preferred specimens for measurement include all or most of the platelets (ie, whole blood and platelet-rich plasma) or consist of serum from completely clotted specimens, a process that releases nearly all 5-HT from platelets. "Ordinary" or platelet-poor plasma specimens are not suitable.

Medications that may elevate serotonin concentrations include lithium, monoamine oxidase inhibitors, methyldopa, morphine, and reserpine. The observed levels are usually less than 400 ng/mL. Selective serotonin reuptake inhibitors (eg, fluoxetine) can lead to depletion of platelet serotonin levels and result in false-negative serum and 5-HT tests. The effects of drugs are more marked on urinary 5-HT and 5 hydroxyindoleacetic acid (5-HIAA) levels than on blood and serum 5-HT levels.

Serotonin- or tryptophan-rich foods (avocados, bananas, plums, walnuts, pineapple, eggplant, plantain, tomatoes, hickory nuts, kiwi, dates, grapefruit, cantaloupe, and honeydew melon) do not contribute significantly to serum blood 5-HT measurements, but can elevate platelet-poor plasma 5-HT, and urinary 5-HIAA levels markedly (up to 10-fold).

Methodology: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

References: [Mayo Clinic Laboratories](#) (August 2020)