

---

**Lab Dept:** Chemistry

**Test Name:** VITAMIN B12 ASSAY

---

***General Information***

**Lab Order Codes:** VB12

**Synonyms:** B12; Vit B12; Cyanocobalamin

**CPT Codes:** 82607 – Cyanocobalamin (Vitamin B12)

**Test Includes:** Vitamin B 12 level reported in ng/L.

---

***Logistics***

**Test Indications:** Useful in detecting vitamin B12 deficiency anemia. Helps diagnose the cause of anemia, especially when the RBC's are described as macrocytic in non-neonates.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Mayo Medical Laboratories (MML Test: B12)

**Phone Numbers:** MIN Lab: 612-813-6280  
STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 - 3 days, performed Monday - Saturday

**Special Instructions:** N/A

---

***Specimen***

**Specimen Type:** Blood

**Container:** SST (Marble, gold or red)

**Draw Volume:** 1.8 mL (Minimum: 1.5 mL) blood

**Processed Volume:** 0.6 mL (Minimum: 0.5 mL) serum

**Collection:** Routine venipuncture

<b>Special Processing:</b>	Lab Staff: Centrifuge specimen. Should be centrifuged within 2 hours of collection. Separate and transfer serum into screw-capped plastic vial. Store and ship at refrigerated temperatures. Forward promptly.
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Specimens other than serum; moderate hemolysis; warm specimens, mislabeled or unlabeled specimens

---

***Interpretive***

<b>Reference Range:</b>	All ages: 180 - 914 ng/L
-------------------------	--------------------------

**Critical Values:** N/A

**Limitations:** Patients taking Vitamin B 12 supplementation may have misleading results.

Many other conditions are known to cause an increase or decrease in the serum vitamin B 12 concentration including: **Increases:** Ingestion of vitamin C, ingestion of estrogens, ingestion of vitamin A, hepatocellular injury, myeloproliferative disorder, uremia. **Decreases:** Pregnancy, aspirin, anticonvulsants, colchicine, ethanol ingestion, contraceptive hormones, smoking, hemodialysis, multiple myeloma.

The evaluation of macrocytic anemia requires measurement of both vitamin B 12 and folate levels; ideally they should be measured simultaneously.

Some patients who have been exposed to animal antigens either in the environment or as part of treatment or imaging procedure, may have circulating antianimal antibodies present. These antibodies may interfere with the assay reagents to produce unreliable results.

**Methodology:** Immunoenzymatic assay

**References:** [Mayo Medical Laboratories Web Page](#) December 2017

**Updates:** 8/3/2016: Tube update to SST