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**Lab Dept:** Chemistry

**Test Name:** FOLATE, SERUM

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***General Information***

**Lab Order Codes:** FOLA

**Synonyms:** Folic Acid; Pteroylglutamic Acid

**CPT Codes:** 82746 – Folic acid

**Test Includes:** Folate/Folic Acid reported in mcg/L.

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***Logistics***

**Test Indications:** Useful for investigation of suspected folate deficiency.

**Lab Testing Sections:** Chemistry - Sendouts

**Referred to:** Mayo Clinic Laboratories (MML Test: FOL)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1-3 days

**Special Instructions:** This test should not be requested on patients who have recently received methotrexate or other folic acid antagonists.

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***Specimen***

**Specimen Type:** Blood

**Container:** SST (Gold, marble or red) tube

**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, remove serum aliquot into a screw-capped plastic vial. Store and ship at refrigerated temperatures. Forward promptly.  Specimen stable refrigerated (preferred) for 7 days, frozen for 90 days.
<b>Patient Preparation:</b>	Patient should be fasting for 8 hours. Do not order on patients who have recently received methotrexate or other folic acid antagonists.
<b>Sample Rejection:</b>	Specimens other than serum; mislabeled or unlabeled specimens; gross hemolysis

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### ***Interpretive***

**Reference Range:**  $\geq 4.0$  mcg/L

**Critical Values:** N/A

**Limitations:** Patients with combined deficiency of folate and iron may not demonstrate the erythrocyte macrocytosis otherwise typical of folate deficiency anemia. In these patients, however, the red cell distribution width (RDW) will typically be elevated.

A non-fasting specimen results in falsely elevated results.

Patients taking folate may have misleading results.

Folates other than (N)-5-methyltetrahydrofolate and folic acid antagonists (such as methotrexate) may, under some circumstances, be present in serum and will also be measured by this method.

The analytic variability (CV) of both serum and red blood cell folate assays is considerable. Homocysteine and methylmalonic acid levels are alternate assays for folate deficiency.

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

**Methodology:** Competitive Binding Receptor Assay

**References:** [Mayo Clinic Laboratories](#) December 2024

**Updates:** 7/12/2010: Units update (ug/L to mcg/L) and method update.  
5/3/2012: Updated reference range, previously listed as  $\geq 3.5$  mcg/L.  
12/13/2017: Collection container update.  
12/27/2024: Added patient preparation and specimen stability. Edited turnaround time.