Lab Dept: Chemistry

Test Name: MYOGLOBIN, SERUM

General Information

Lab Order Codes:	MYO
Synonyms:	N/A
CPT Codes:	83874 - Myoglobin
Test Includes:	Myoglobin concentration reported in mcg/L.

Logistics

Test Indications:	Useful in assessing muscle damage from any cause. Myoglobin is a heme protein found in smooth and skeletal muscles. Serum myoglobin reflects a balance between intravascular release of myoglobin from muscle and renal clearance. Previously serum myoglobin had been advocated as a sensitive marker for early acute myocardial injury (eg, acute myocardial infarction: AMI). However, more recent studies indicate that other newer markers (eg, troponin) provide superior diagnostic utility in detecting early myocardial injury. Elevation of serum myoglobin may occur as a result of muscle trauma, resuscitation, myopathies, AMI, shock, strenuous body activity, or decreased elimination during renal insufficiency. Extreme elevations occur in rhabdomyolysis.
Lab Testing Sections:	Chemistry – Sendouts
Referred to:	Mayo Clinic Laboratories (Mayo Test: MYGLS)
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours
Turnaround Time:	1 - 2 days
Special Instructions:	N/A

Specimen

Specimen Type:	Blood
Container:	SST(Gold, marble, or red) tube
Draw Volume:	3 mL (Minimum: 1.8 mL) blood
Processed Volume:	1 mL (Minimum: 0.6 mL) serum
Collection:	Routine venipuncture
Special Processing:	Lab Staff: Centrifuge specimen, remove serum aliquot into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly. Serum stable refrigerated (preferred) for 14 days, ambient for 7 days, frozen for 1 year.
Patient Preparation:	None
Sample Rejection:	Mislabeled or unlabeled specimens; gross hemolysis or icterus; gross lipemia that cannot be cleared by ultracentrifugation.

Interpretive

Reference Range:	Males: 0 to 72 mcg/L Females: 0 to 58 mcg/L
Critical Values:	N/A
Limitations:	Elevation is nonspecific for acute myocardial infarction. The test is of no value in this regard in the presence of renal failure, rhabdomyolysis, extensive trauma, acute peripheral vascular occlusion, or after seizures. Serum levels rise in renal insufficiency. In very rare cases, gammopathy, in particular type IgM (Waldenstrom macroglobulinemia), may cause unreliable results. Results are unreliable in lipemic serum; specimens that cannot be cleared by ultracentrifugation will be rejected.
Methodology:	Electrochemiluminescent Immunoassay (ECLIA)
References:	Mayo Clinic Laboratories May 2024

Updates:

7/13/2010: Units change from ug/ml to mcg/mL.
724/2013: Units change from mcg/mL to mcg/L and new method.
12/12/2017: Collection container update.

5/2/2024: Changed minimum collection and aliquot volumes, test indications, methodology, rejection criteria, and reference ranges. Added specimen stability.