
Overview**Useful For**

Confirmation of intravascular hemolysis

Method Name

Nephelometry

NY State Available

Yes

Specimen**Specimen Type**

Serum

Specimen Required**Container/Tube:****Preferred:** Serum gel**Acceptable:** Red top**Specimen Volume:** 1 mL**Reject Due To**

Gross hemolysis	OK
Gross lipemia	Reject
Gross icterus	OK

Specimen Minimum Volume

0.5 mL

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	28 days	
	Frozen	28 days	

	Ambient	14 days	
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Clinical & Interpretive

Clinical Information

Haptoglobin is an immunoglobulin-like plasma protein that binds hemoglobin. The haptoglobin-hemoglobin complex is removed from plasma by macrophages and the hemoglobin is catabolized. When the hemoglobin-binding capacity of haptoglobin is exceeded, hemoglobin passes through the renal glomeruli, resulting in hemoglobinuria.

Chronic intravascular hemolysis causes persistently low haptoglobin concentration. Regular strenuous exercise may cause sustained low haptoglobin, presumably from low-grade hemolysis. Low serum haptoglobin may also be due to severe liver disease.

Neonatal plasma or serum specimens usually do not contain measurable haptoglobin; adult levels are achieved by 6 months.

Increase in plasma haptoglobin concentration occurs as an acute-phase reaction. Levels may appear to be increased in conditions such as burns and nephrotic syndrome. An acute-phase response may be confirmed and monitored by assay of other acute-phase reactants such as alpha-1-antitrypsin and C-reactive protein.

Reference Values

30-200 mg/dL

Interpretation

Absence of plasma haptoglobin may therefore indicate intravascular hemolysis. However, congenital anaptoglobinemia is common, particularly in African-Americans. For this reason, it may be difficult or impossible to interpret a single measurement of plasma haptoglobin. If the assay value is low, the test should be repeated after 1 to 2 weeks following an acute episode of hemolysis. If all the plasma haptoglobin is removed following an episode of intravascular hemolysis, and if hemolysis ceases, the haptoglobin concentration should return to normal in a week.

Low levels of plasma haptoglobin may indicate intravascular hemolysis.

Cautions

Low haptoglobin is normal for the first 3 to 6 months of life.

Haptoglobin is an acute-phase reactant and increases with inflammation or tissue necrosis.

Clinical Reference

1. Silverman LM: Amino acids and proteins. In Tietz Textbook of Clinical Chemistry. Edited by NW Tietz. Philadelphia, WB Saunders Company, 1986, pp 519-618
2. Kanakoudi F, Drossou V, Tzimouli V, et al: Serum concentrations of 10 acute-phase proteins in healthy term and preterm infants from birth to age 6 months. Clin Chem 1995;41:605-608
3. Siemens Nephelometer II Operations Instruction Manual. Siemens, Inc., Newark, DE

Performance**Method Description**

Nephelometry.(Siemens Nephelometer II Operations Instruction Manual. Siemens, Inc., Newark, DE)

PDF Report

No

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees & Codes**Test Classification**

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

83010

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
HAPT	Haptoglobin, S	46127-7

Result ID	Reporting Name	LOINC®
HAPT	Haptoglobin, S	46127-7