MAYO CLINIC LABORATORIES

Test Definition: ALB

Albumin, Serum

Overview

Useful For
Assessing nutritional status

Testing Algorithm
For more information see:
Amyloidosis: Laboratory Approach to Diagnosis
Multiple Myeloma: Laboratory Screening

Special Instructions
- Amyloidosis: Laboratory Approach to Diagnosis
- Multiple Myeloma: Laboratory Screening

Method Name
Colorimetric

NY State Available
Yes

Specimen

Specimen Type
Serum

Necessary Information
Patient's age and sex are required.

Specimen Required
Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL
Submission Container/Tube: Plastic vial
Collection Instructions:
1. Serum gel tubes should be centrifuged within 2 hours of collection.
2. Red-top tubes should be centrifuged, and the serum aliquoted into a plastic vial within 2 hours of collection.

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Kidney Transplant Test Request

-Renal Diagnostics Test Request (T830)

Specimen Minimum Volume

0.25 mL

Reject Due To

Gross hemolysis	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	150 days	
	Frozen	120 days	

Clinical & Interpretive

Clinical Information

Albumin is a carbohydrate-free protein, which constitutes 55% to 65% of total plasma protein. It maintains oncotic plasma pressure, is involved in the transport and storage of a wide variety of ligands, and is a source of endogenous amino acids. Albumin binds and solubilizes various compounds, including bilirubin, calcium, long-chain fatty acids, toxic heavy metal ions, and numerous pharmaceuticals.

Hypoalbuminemia is caused by several factors: impaired synthesis due either to liver disease (primary) or due to diminished protein intake (secondary), increased catabolism as a result of tissue damage and inflammation, malabsorption of amino acids, and increased renal excretion (eg, nephrotic syndrome).

Reference Values

> or =12 months: 3.5-5.0 g/dL

Reference values have not been established for patients who are <12 months of age.

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Interpretation

Hyperalbuminemia is of little diagnostic significance except in the case of dehydration. When plasma or serum albumin values fall below 2.0 g/dL, edema is usually present.

Cautions

Albumin values determined by the bromcresol green method may not be identical to the albumin values determined by electrophoresis.

Clinical Reference

1. Tietz Textbook of Clinical Chemistry. Edited by CA Burtis, ER Ashwood. Philadelphia, WB Saunders Company, 1999

2. Peters T, Jr: Serum albumin. In The Plasma Proteins. Vol 1. Second edition. Edited by F Putnam, New York, Academic Press, 1975

Performance

Method Description
At a pH value of 4.1, albumin displays a sufficiently cationic character to be able to bind with bromcresol green (BCG), an anionic dye, to form a blue-green complex. The color intensity of the blue-green color is directly proportional to the albumin concentration in the sample and is measured photometrically.(Package insert: Albumin reagent. Roche Diagnostics; 06/2024)

PDF Report
No

Day(s) Performed
Monday through Sunday

Report Available
Same day/1 to 2 days

Specimen Retention Time
1 week

Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

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
82040

LOINC® Information

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Test Definition: ALB

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Test ID	Test Order Name	Order LOINC® Value
ALB	Albumin, S	1751-7

Result ID	Test Result Name	Result LOINC® Value
ALB	Albumin, S	1751-7