MAYO CLINIC LABORATORIES

Test Definition: PALB

Prealbumin, Serum

Overview

Useful For

Assessing nutritional status, especially in monitoring the response to nutritional support in the acutely ill patient

Method Name

Nephelometry

NY State Available

Yes

Specimen

Specimen Type

Serum

Ordering Guidance

This is an immunologic protein measurement. For thyroxine-binding measurement of prealbumin, see TBPE / Thyroxine-Binding Protein Electrophoresis, Serum.

Specimen Required

Supplies: Sarstedt Aliquot Tube 5 mL (T914)
Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions: Centrifuge and aliquot serum into a plastic vial.

Specimen Minimum Volume

0.5 mL

Reject Due To

Gross hemolysis	OK
Gross lipemia	Reject
Gross icterus	OK

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	28 days	
	Ambient	14 days	
	Frozen	28 days	

Clinical & Interpretive

Clinical Information

Prealbumin is synthesized in the liver and acts as a binding protein for thyroxine and retinol-binding protein.

The serum concentration of prealbumin reflects the synthesis capacity of the liver and is markedly diminished in malnutrition and other conditions.

Due to its short half-life of approximately 2 days, prealbumin can be used for monitoring the nutritional status and efficacy of parenteral nutrition.

Reference Values

< or =18 years: 12-32 mg/dL
>18 years: 19-38 mg/dL

Interpretation

Results below the reference intervals for adults and pediatric patients may suggest protein depletion.

Clinical correlation recommended with patient status and other nutritional markers.

Cautions

Quantitation of specific proteins by nephelometric means may not be possible in lipemic sera due to the extreme light scattering properties of the specimen. Turbidity and particles in the specimen may result in extraneous light scattering signals, resulting in variable specimen analysis.

Clinical Reference

1. Haider M, Haider SQ. Assessment of protein-calorie malnutrition. Clin Chem 1984;30(8):1286-1299
2. Grant JP, Custer PB, Thurlow J. Current techniques of nutritional assessment. Surg Clin North Am 1981;61(3):437-463
3. Bernstein LH, Leukhardt-Fairfield CJ, Pleban W, et al. Usefulness of data on albumin and prealbumin concentrations in determining effectiveness of nutritional support. Clin Chem 1989;35(2):271-274
4. Kanakoudi F, Drossou V, Tzimouli V, et al: Serum concentrations of 10 acute-phase proteins in healthy term and pre-term infants from birth to age 6 months. Clin Chem 1995;41(4):605-608
5. Rifai N, Horvath AR, Wittwer CT, eds. Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 6th ed. Elsevier; 2018

Performance

Method Description

In this Siemens Nephelometer II method, the light scattered by the antigen-antibody complexes are measured. The intensity of the measured scattered light is proportional to the amount of antigen-antibody complexes in the sample under certain conditions. If the antibody volume is kept constant, the signal behaves proportionally to the antigen volume.

A reference curve is generated by a standard with a known antigen content on which the scattered light signals of the samples can be evaluated and calculated as an antigen concentration. Antigen-antibody complexes are formed when a sample containing antigen and the corresponding antiserum are put into a cuvette. A light beam is generated with a light emitting diode, which is transmitted through the cuvette. The light is scattered onto the immuno-complexes that are present. Antigen and antibody are mixed in the initial measurement, but no complex is formed yet. An antigen-antibody complex is formed in the final measurement.

The result is calculated by subtracting value of the final measurement from the initial measurement. The distribution of intensity of the scattered light depends on the ratio of the particle size of the antigen-antibody complexes to the radiated wavelength. (Siemens Nephelometer II Operations Instruction Manual, Siemens, Inc., Newark, DE, Version 2.4, 07/2019; Addendum to the Instruction Manual 2.3, 08/2017)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
1 to 3 days

Specimen Retention Time
14 days

Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Superior Drive

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

84134

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
PALB	Prealbumin (PAB), S	46130-1

Result ID	Test Result Name	Result LOINC® Value
PALB	Prealbumin (PAB), S	46130-1