Test Definition: C3

Complement C3, S

Overview

Useful For

Assessing disease activity in systemic lupus erythematosus (SLE)

Investigating an undetectable total complement (CH50) level

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

Forms

If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

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)	7 days	
	Frozen	28 days	
	Ambient	72 hours	

Clinical and Interpretive

Clinical Information

The complement system is an integral part of the body's immune defenses. The primary complement pathway consists of recognition (Clq, Clr, Cls), activation (C4, C2, C3), and attack (C5, C6, C7, C8, C9) mechanisms with respect to their role in antibody-mediated cytolysis.

The complement system can be activated via immune complexes, and the alternative pathway (properdin pathway), which is activated primarily by foreign bodies such as microorganisms.

C3 activation involves cleavage by C3 convertase into C3a and C3b. When immune complexes are not involved, the alternate method of complement activation initiates the reactant sequence at C3, bypassing C1, C4, and C2.

Severe recurrent bacterial infections occur in patients with homozygous C3 deficiency and in those patients with low levels of C3 secondary to the absence of C3b activator.

Decreased C3 may be associated with acute glomerulonephritis, membranoproliferative glomerulonephritis, immune complex disease, active systemic lupus erythematosus, septic shock, and end-stage liver disease.

Reference Values

75-175 mg/dL

Interpretation

A decrease in C3 levels to the abnormal range is consistent with disease activation in systemic lupus erythematosus (SLE).

Cautions

The results are dependent on appropriate specimen transport and storage.

Clinical Reference

1. Ross SC, Densen P: Complement deficiency states and infection: epidemiology, pathogenesis, and consequences of neisserial and other infections in an immune deficiency. Medicine 1984;63:243-273

2. Frank MM: Complement in the pathophysiology of human disease. N Engl J Med 1987;316:1525-1530

Performance

Method Description

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

PDF Report

No

Day(s) and Time(s) Test Performed

Monday through Friday; 3 p.m.

Analytic Time

Same day/1 day

Maximum Laboratory Time

2 days

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees and 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 Regional Manager. For assistance, contact Customer Service.

Test Classification

This test has been cleared, approved or is exempt by the U.S. 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

86160

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
C3	Complement C3, S	4485-9

Result ID	Test Result Name	Result LOINC Value
C3	Complement C3, S	4485-9