# Overview

## Useful For
- Detecting systemic inflammatory processes
- Detecting infection and assessing response to antibiotic treatment of bacterial infections
- Differentiating between active and inactive disease forms with concurrent infection

## Method Name
Immunoturbidimetric Assay

## NY State Available
Yes

# Specimen

## Specimen Type
Serum

## Advisory Information
To assess the risk of cardiovascular disease or events using C-reactive protein, order HSCRP / C-Reactive Protein, High Sensitivity, Serum.

## Necessary Information
Indicate patient's age and sex.

## Specimen Required

### Container/Tube:
- **Preferred:** Serum gel
- **Acceptable:** Red top

### Specimen Volume:
0.5 mL

### Collection Instructions:
1. Serum gel tube should be centrifuged within 2 hours of collection.
2. Red-top tube should be centrifuged and the serum aliquoted within 2 hours of collection.

## Specimen Minimum Volume
0.25 mL

## Reject Due To

| Gross hemolysis | Reject |
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
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</tbody>
</table>

Clinical and Interpretive

Clinical Information

C-reactive protein (CRP) is one of the most sensitive acute-phase reactants for inflammation. CRP is synthesized by the liver and consists of 5 identical polypeptide chains that form a 5-membered ring with a molecular weight of 105,000 daltons. Complexed CRP activates the classical complement pathway. The CRP response frequently precedes clinical symptoms, including fever.

CRP elevations are nonspecific and may be useful for the detection of systemic inflammatory processes; to assess treatment of bacterial infections with antibiotics; to detect intrauterine infections with concomitant premature amniorrhexis; to differentiate between active and inactive forms of disease with concurrent infection, eg, in patients suffering from systemic lupus erythematosus or colitis ulcerosa; to therapeutically monitor rheumatic disease and assess anti-inflammatory therapy; to determine the presence of postoperative complications at an early stage, such as infected wounds, thrombosis, and pneumonia; and to distinguish between infection and bone marrow rejection. Postoperative monitoring of CRP levels of patients can aid in the recognition of unexpected complications (persisting high or increasing levels).

Measuring changes in the concentration of CRP provides useful diagnostic information about the level of acuity and severity of a disease. It also allows judgments about the disease genesis. Persistence of a high serum CRP concentration is usually a grave prognostic sign that generally indicates the presence of an uncontrolled infection.

Reference Values

< or =8.0 mg/L

Interpretation

In normal healthy individuals, C-reactive protein (CRP) is a trace protein (<8 mg/L).

Elevated values are consistent with an acute inflammatory process.

After onset of an acute phase response, the serum CRP concentration rises rapidly (within 6-12 hours and peaks at 24-48 hours) and extensively. Concentrations above 100 mg/L are associated with severe stimuli such as major trauma and severe infection (sepsis).

Cautions

C-reactive protein (CRP) response may be less pronounced in patients suffering from liver disease.

Elevated CRP values are nonspecific and should not be interpreted without a complete clinical history.

Clinical Reference

Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. Sixth edition. Edited by N Rafai, AR Horvath, CT
Test Definition: CRP

C-Reactive Protein (CRP), S

Wittwer. Elsevier, 2018

Performance

Method Description
Particle-enhanced immunoturbidimetric assay. Human C-reactive protein (CRP) agglutinates with latex particles coated with monoclonal anti-CRP antibodies. The aggregates are determined turbidimetrically. (Package insert: Roche CRPL3 reagent. Roche Diagnostics 02/2020)

PDF Report
No

Day(s) and Time(s) Test Performed
Monday through Sunday; Continuously

Analytic Time
Same day/1 day

Maximum Laboratory Time
2 days

Specimen Retention Time
7 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 or approved 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
86140

LOINC® Information

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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CRP</td>
<td>C-Reactive Protein (CRP), S</td>
<td>1988-5</td>
</tr>
<tr>
<td>Result ID</td>
<td>Test Result Name</td>
<td>Result LOINC Value</td>
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