Overview

Useful For
Assessment of risk of developing myocardial infarction in patients presenting with acute coronary syndromes
Assessment of risk of developing cardiovascular disease or ischemic events in individuals who do not manifest disease at present

Method Name
Immunoturbidimetry

NY State Available
Yes

Specimen

Specimen Type
Serum

Advisory Information
This assay should be used to assess risk of cardiovascular disease or events.
CRP / C-Reactive Protein (CRP), Serum should be used to monitor or assess other inflammatory disorders.

Specimen Required
Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Submission Container/Tube: Plastic vial

Specimen Volume: 1 mL

Forms
If not ordering electronically, complete, print, and send a Cardiovascular Test Request Form (T724) with the specimen.

Specimen Minimum Volume
0.2 mL

Reject Due To

<table>
<thead>
<tr>
<th>Hemolysis</th>
<th>Mild OK; Gross reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
</tr>
</tbody>
</table>

Clinical and Interpretive

Clinical Information

C-reactive protein (CRP) is a biomarker of inflammation. Plasma CRP concentrations increase rapidly and dramatically (100-fold or more) in response to tissue injury or inflammation. High-sensitivity CRP (hs-CRP) is more precise than standard CRP when measuring baseline (ie, normal) concentrations and enables a measure of chronic inflammation.

Atherosclerosis is an inflammatory disease and hs-CRP has been endorsed by multiple guidelines as a biomarker of atherosclerotic cardiovascular disease risk.\(^{(1-3)}\)

A large prospective clinical trial demonstrated significantly less cardiovascular risk for patients with hs-CRP less than 2.0 mg/L.\(^{(1)}\) More aggressive treatment strategies may be warranted in patients with hs-CRP of 2.0 mg/L or higher.

Reference Values

Lower risk: <2.0 mg/L

Higher risk: > or =2.0 mg/L

Acute inflammation: >10.0 mg/L

Interpretation

Values greater than 2.0 mg/L suggest an increased likelihood of developing cardiovascular disease or ischemic events.

Cautions

This test is recommended for cardiovascular risk assessment only.

C-reactive protein (CRP) is an acute-phase reactant and has high intra-individual variability. Therefore, a single test for high-sensitivity CRP (hs-CRP) may not reflect an individual patient's basal hs-CRP level. Repeat measurement may be required to firmly establish an individual's basal hs-CRP concentration. The lowest of the measurements should be used as the predictive value.

Because CRP is an acute-phase reactant, measurements in apparently healthy individuals may not truly reflect the basal level if inflammation is present.

This hs-CRP assay should be used as a means to assess risk of cardiovascular disease or events. A different CRP test (CRP / C-Reactive Protein [CRP], Serum) should be used to monitor or assess other inflammatory disorders.

Significantly decreased CRP values may be obtained from samples taken from patients who have been treated with carboxypenicillins.\(^{\text{Package Insert: Cardiac C-Reactive Protein (Latex) High Sensitive, Roche Diagnostics.}}\)
Clinical Reference


Performance

Method Description

Particle-enhanced immunoturbidimetric assay. Human CRP agglutinates with latex particles coated with monoclonal anti-CRP antibodies. The precipitate is determined turbidimetrically. (Package Insert: Cardiac C-Reactive Protein (Latex) High Sensitive, Roche Diagnostics. Indianapolis, IN. 08/2013)

PDF Report

No

Day(s) and Time(s) Test Performed

Monday through Saturday; 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**

86141

**LOINC® Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCRP</td>
<td>C-Reactive Protein, High Sens, S</td>
<td>30522-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSCRP</td>
<td>C-Reactive Protein, High Sens, S</td>
<td>30522-7</td>
</tr>
</tbody>
</table>