Test Definition: HSCRP

C-Reactive Protein, High Sensitivity, Serum

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

Immunoturbidimetric

NY State Available

Yes

Specimen

Specimen Type

Serum

Ordering Guidance

This assay should be used to assess risk of cardiovascular disease or events.

To monitor or assess other inflammatory disorders, order CRP / C-Reactive Protein (CRP), Serum.

Specimen Required

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.

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

Gross hemolysis	Reject

Gross lipemia	Reject
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	7 days	
	Frozen	30 days	

Clinical & Interpretive

Clinical Information

C-reactive protein (CRP) is a biomarker of inflammation. Serum 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

> or =18 years: <2.0 mg/L
Reference values have not been established for patients who are younger than 18 years.

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 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.(4)

No significant interference is seen from rheumatoid factors up to a concentration of 200 IU/mL.

Clinical Reference

1. European Association for Cardiovascular Prevention and Rehabilitation, Reiner Z, Catapano AL, et al. ESC/EAS Guidelines for the management of dyslipidaemias: the Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS). Eur Heart J. 2011;32:1769-1818
2. Goff DC, Lloyd-Jones DM, Bennett G, et al. 2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk. Circulation. 2014;129:S49-S73
3. Jacobson TA, Ito MK, Maki KC, et al. National Lipid Association recommendations for patient-centered management of dyslipidemia: part 1 - executive summary. J Clin Lipidol. 2014;8:473-488
4. Cardiac C-Reactive Protein (Latex) High Sensitive. V 12.0. Package insert: Roche Diagnostics; 03/2019
5. Ridker PM, Danielson E, Fonseca FA, et al. Reduction in C-reactive protein and LDL-cholesterol and cardiovascular event rates after initiation of rosuvastatin: a prospective study of the JUPITER trial. Lancet. 2009;373:1175-1182
6. Arnett DK, Blumenthal RS, Albert MA, et al. 2019 ACC/AHA guideline on the primary prevention of cardiovascular disease: A report of the American College of Cardiology/American Heart Association task force on clinical practice guidelines. Circulation. 2019;140:563-595
7. Pearson TA, Mensah GA, Alexander RW, et al. Markers of inflammation and cardiovascular disease. Application to clinical and public health practice. A statement for healthcare professionals from the Centers for Disease Control and Prevention and the American Heart Association. Circulation. 2003;107(3):499-511. doi:10.1161/01.cir.0000052939.59093.45

Performance

Method Description

This is a particle-enhanced immunoturbidimetric assay. Human C-reactive protein (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; V15.0, 04/2024)

PDF Report

No

Day(s) Performed

Monday through Saturday

Report Available

Same day/1 to 2 days

Specimen Retention Time

7 days

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

86141

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
HSCRP	C-Reactive Protein, High Sens, S	30522-7

Result ID	Test Result Name	Result LOINC® Value
HSCRP	C-Reactive Protein, High Sens, S	30522-7