Test Definition: RHUT

Rheumatoid Factor, S

Overview

Useful For

Diagnosis and prognosis of rheumatoid arthritis

Method Name

Turbidimetry

NY State Available

Yes

Specimen

Specimen Type

Serum

Additional Testing Requirements

Anticyclic citrullinated peptide (CCP) antibody (CCP / Cyclic Citrullinated Peptide Antibodies, IgG, Serum) is an alternative or complementary assay to rheumatoid factor (RF) that has also demonstrated utility in the diagnosis and assessment of rheumatoid arthritis (RA). Utilization of both of these tests can provide clinical value in the diagnosis of RA. RF is not specific and may be present in other inflammatory rheumatic diseases and nonrheumatic diseases as well as in nonaffected individuals especially in those 60 years of age or older.

Specimen Required

Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Specimen Volume: 0.6 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	Reject
Gross lipemia	OK
Gross icterus	OK

Specimen Stability Information

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

Specimen Type	Temperature	Time	Special Container
	Ambient	14 days	
	Frozen	14 days	

Clinical and Interpretive

Clinical Information

Rheumatoid factors (RF) are a heterogeneous group of autoantibodies that are associated with the diagnosis of rheumatoid arthritis (RA), but can also be found in other inflammatory rheumatic and nonrheumatic conditions. They can also be detected in some healthy individuals 60 years and older. Despite being nonspecific, the detection of RF or anticitrullinated protein (anti-CCP) antibody, is part of the 2010 diagnosis criterion of the American College of Rheumatology for classification of RA. More than 75% of patients with RA have an IgM antibody to IgG immunoglobulin. The titer of RF correlates poorly with disease activity, but those patients with high titers tend to have more severe disease and, thus, a poorer prognosis than do sero-negative patients.

A meta-analysis compared the sensitivity and specificity of IgM RF versus anti-CCP antibody. For IgM RF, the sensitivity was 69% (CI, 65%-73%), and specificity was 85% (CI, 82%-88%). For comparison, the sensitivity for anti-CCP antibody was 67% (95% CI, 62%-72%), and 95% (CI, 94%-97%).(1) Both anti-CCP and RF are useful in the diagnosis of RA, and use of both tests has been shown to increase diagnostic sensitivity.(2)

Reference Values

<15 IU/mL

Interpretation

Positive results are consistent with but not specific for, rheumatoid arthritis.

Cautions

Nonrheumatoid and rheumatoid arthritis (RA) populations are not clearly separate with regard to the presence of rheumatoid factor (RF) (15% of RA patients have a nonreactive titer and 8% of nonrheumatoid patients have a positive titer). Patients with various nonrheumatoid diseases characterized by chronic inflammation may test positive for RF. These diseases include systemic lupus erythematosus, polymyositis, tuberculosis, syphilis, viral hepatitis, infectious mononucleosis, and influenza. RF factor antibodies have been observed in nonaffected individuals, particularly in patients 60 years of age or older.

Clinical Reference

1. Nishimura K, Sugiyama D, Kogata Y, et al: Meta-analysis: diagnostic accuracy of anti-cyclic citrullinated peptide antibody and rheumatoid factor for rheumatoid arthritis. Ann Intern Med 2007 Jun 5;146(11):797-808

2. Chang PY, Yang CT, Cheng CH, Yu KH: Diagnostic performance of anti-cyclic citrullinated peptide and rheumatoid factor in patients with rheumatoid arthritis. Int J Rheum Dis 2016 Sep;19(9):880-886

3. Aletaha D, Neogi T, Silman AJ, Funovits J: 2010 Rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative. Arthritis Rheum 2010 Sep;62(9):2569-2581

4. Smolen JS, Alethaha D, McInnes IB: Rheumatoid arthritis, Lancet 2016 Oct;388:2023-2038

5. Roberts-Thomson PJ, McEvoy R, Langhans T, Bradley J: Routine quantification of rheumatoid factor by rate

nephelometry. Ann Rheum Dis 1985;44:379-383

Performance

Method Description

Testing is performed on the Roche cobas. The Roche Rheumatoid Factors (RF) II assay is an immunoturbidimetric assay. Latex-bound heat-inactivated IgG (antigen) reacts with the RF antibodies in the sample to form antigen/antibody complexes, that following agglutination, are measured turbidimetrically. RF are autoantibodies that are directed against the Fc fragment of IgG. The autoantibodies occur in all immunoglobulin classes (IgA, IgG, and IgM). The Roche RF II assay measures all 3 types of autoantibodies. However, as the IgA and IgG types typically exhibit lower concentrations, the reaction against IgM autoantibodies predominates in this assay.(Package insert: RF-II, Rheumatoid Factors II, Roche Diagnostics, Indianapolis, IN, V8.0, 08/2017)

PDF Report

No

Day(s) and Time(s) Test Performed

Monday through Friday; 5 a.m.-12 a.m.

Saturday; 6 a.m.-6 p.m.

Analytic Time

Same day/1 day

Maximum Laboratory Time

3 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 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

86431

LOINC® Information

Test Definition: RHUT

Rheumatoid Factor, S

Test ID	Test Order Name	Order LOINC Value
RHUT	Rheumatoid Factor, S	11572-5

Result ID	Test Result Name	Result LOINC Value
RHUT	Rheumatoid Factor, S	11572-5