MAYO CLINIC LABORATORIES

Test Definition: HIS

Histone Autoantibodies, Serum

Overview

Useful For

Evaluating patients suspected of having drug-induced lupus

Test is **not useful for** determining prognosis in patients with systemic lupus erythematosus or drug-induced lupus

Method Name

Enzyme-Linked Immunosorbent Assay (ELISA)

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL
Collection Instructions: Centrifuge and aliquot serum into a plastic vial.

Specimen Minimum Volume

0.35 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	OK

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	21 days	
	Frozen	21 days	

Clinical & Interpretive

Clinical Information

Histones are the most basic protein components of chromatin and their structures are highly conserved in different species. Five classes of histones called H1, H2, H2b, H3, and H4 have been described and are characterized by their molecular weights, ranging from 11 to 23 kilodalton (kD), and their content of the basic amino acids lysine and arginine.

Histone autoantibodies may react with any of the 5 classes of histones.(1,2) Autoantibodies to total histones are elicited by unknown mechanisms in patients treated with certain drugs, particularly procainamide, hydralazine, quinidine, alpha methyldopa, penicillamine, and isoniazid. Those patients may have signs and symptoms that resemble systemic lupus erythematosus (SLE). This disorder is identified as drug-induced lupus. Testing for autoantibodies to total histones is useful for evaluating patients suspected of having drug-induced lupus. Such patients will usually have a positive test for histone autoantibodies and a negative test for autoantibodies to double stranded DNA (dsDNA). Patients with SLE have positive tests for both types of autoantibodies.

Reference Values

<1.0 Units (negative)
1.0-1.5 Units (borderline)
>1.5 Units (positive)
Units are arbitrarily based on positive control serum.
Reference values apply to all ages.

Interpretation

A positive result for histone autoantibodies with a negative result for autoantibodies to double-stranded DNA (anti-ds-DNA) is consistent with drug-induced lupus.

A positive result for histone autoantibodies with a positive result for anti-dsDNA autoantibodies is consistent with systemic lupus erythematosus.

Cautions

Positive tests for histone autoantibodies occur in some patients exposed to the above mentioned drugs who do not have signs or symptoms of lupus.

Testing for histone autoantibodies is not necessary to establish the diagnosis of systemic lupus erythematosus (SLE).

Clinical Reference

1. Borchers AT, Keen CL, Gershwin ME: Drug-induced lupus. Ann NY Acad Sci 2007;1108:166-182
2. S Vasoo. Drug-induced lupus: An update. Lupus 2006;15:757-761

Performance

Method Description

Purified histones are bound to the wells of a polystyrene microwell plate under conditions that will preserve the antigen

in its native state. Prediluted controls and diluted patient sera are added to separate wells. After washing, an anti-human IgG conjugated to horseradish peroxidase is added. After incubation and washing, tetramethylbenzidine (TMB) substrate is added to enable visualization of antibodies. The enzyme reaction is stopped and color development measured at 450 nm in a microtiter plate spectrophotometer.(Package insert: QUANTA Lite. Histone ELISA 708520, INOVA Diagnostics, Inc., San Diego, CA., Revision 19, 3/2015)

PDF Report
No

Day(s) Performed
Monday, Wednesday, Friday; 3 p.m.

Report Available
1 to 4 days

Specimen Retention Time
14 days

Performing Laboratory Location
Rochester

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
83516

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
HIS	Histone Autoantibodies, S	43231-0

Result ID	Test Result Name	Result LOINC® Value
HIS	Histone Autoantibodies, S	43231-0