MAYO CLINIC LABORATORIES

Test Definition: THSD7

Thrombospondin Type-1 Domain-Containing 7A Antibodies, Serum

Overview

Useful For
Distinguishing primary from secondary membranous nephropathy cases with antibodies against THSD7A

Method Name
Indirect Immunofluorescence Assay (IFA)

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required
Supplies: Sarstedt 5 mL Aliquot Tube (T914)
Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container: Plastic vial
Specimen Volume: 1 mL
Collection Information: Centrifuge and aliquot serum into plastic vial within 2 hours of collection.

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Kidney Transplant Test Request
-Renal Diagnostics Test Request (T830)

Specimen Minimum Volume
0.5 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	OK

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	14 days	
	Ambient	8 hours	
	Frozen	14 days	

Clinical & Interpretive

Clinical Information

Recently, autoantibodies against phospholipase A2 receptor (PLA2R) in the kidney were determined to be the major target antigen for patients with idiopathic/primary membranous nephropathy (MN).(1) Approximately 70% of patients with primary MN circulate anti-PLA2R antibodies, and in the remaining 30% (who are PLA2R-negative), anti-thrombospondin type-1 domain-containing 7A (THSD7A) was shown to have approximately a 10% prevalence (or about 3% of all primary MN patients).(2) Mouse podocytes express THSD7A and introduction of anti-THSD7A autoantibodies induces MN in murine models. Mouse podocytes do not express PLA2R so exogenous administration of anti-PLA2R does not recapitulate membranous nephropathy in mice.(3) Additionally, THSD7A has been described as a potential tumor antigen and, thus, it has been suggested that THSD7A-positive patients merit a thorough cancer screening.(4)

Reference Values

Negative

Interpretation

Therapy outcome can be monitored by measuring the antibody titer. A titer increase, decrease, or disappearance generally precedes a change in clinical status. Thus, the determination of the antibody titer has a high predictive value with respect to clinical remission, relapse, or risk assessment after kidney transplantation.

Cautions

This test should not be used as a stand-alone test but as an adjunct to other clinical information. A diagnosis of primary or secondary membranous nephropathy (MN) should not be made based on a single test result. The clinical symptoms, results on physical examination, and laboratory tests (eg, serological tests), when appropriate, should always be taken into account when considering the diagnosis of primary versus secondary MN.

Absence of circulating autoantibodies does not rule out a diagnosis of primary MN.

Clinical Reference

1. Beck LH Jr, Bonegio RG, Lambeau G, et al: M-type phospholipase A2 receptor as target antigen in idiopathic membranous nephropathy. N Engl J Med. 2009;361:11-21. doi: 10.1056/NEJMoa0810457
2. Tomas NM, Beck LH Jr, Meyer-Schwesinger C, et al: Thrombospondin type-1 domain-containing 7A in idiopathic membranous nephropathy. N Engl J Med. 2014;371:2277-2287.doi: 10.1056/NEJMoa1409354
3. Tomas NM, Hoxha E, Reinicke AT, et al: Autoantibodies against thrombospondin type 1 domain-containing 7A induce membranous nephropathy. J Clin Invest. 2016;126(7):2519-2532. doi: 10.1172/JCI85265
4. Stahl PR, Hoxha E, Wiech T, Schroder C, Simon R, Stahl RA: THSD7A expression in human cancer. Genes Chromosomes Cancer. 2017;56:314-327. doi: 10.1002/gcc.22440

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Performance

Method Description

Diluted patient samples are incubated with combinations of substrates. If the reaction is positive, specific antibodies of classes IgA, IgG, and IgM attach to the antigens. In a second step, the attached antibodies are stained with fluorescein-labelled antihuman antibodies and made visible with a fluorescence microscope.(Package insert: Anti-THSD7A IIFT EUROPattern, EUROIMMUN US;V 06/11/2019)

PDF Report

No

Day(s) Performed

Tuesday

Report Available

3 to 7 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 was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information

86255

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
THSD7	THSD7A Ab, S	93339-0

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Thrombospondin Type-1 Domain-Containing 7A Antibodies, Serum

Result ID	Test Result Name	Result LOINC® Value
THSD7	THSD7A Ab, S	93339-0