

Overview

Useful For

Only orderable as a reflex. For more information see:
DMS2 / Dementia, Autoimmune/Paraneoplastic Evaluation, Serum
ENS2 / Encephalopathy, Autoimmune/Paraneoplastic Evaluation, Serum
EPS2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Serum

Evaluation of patients suspected of having autoimmune encephalitis using serum specimens

Reporting adenylate kinase 5 IgG results as part of a profile

Method Name

Only orderable as a reflex. For more information see:
-DMS2 / Dementia, Autoimmune/Paraneoplastic Evaluation, Serum
-ENS2 / Encephalopathy, Autoimmune/Paraneoplastic Evaluation, Serum
-EPS2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Serum

Cell Binding Assay (CBA)

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

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-DMS2 / Dementia, Autoimmune/Paraneoplastic Evaluation, Serum
-ENS2 / Encephalopathy, Autoimmune/Paraneoplastic Evaluation, Serum
-EPS2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Serum

Specimen Minimum Volume

Serum: 0.5 mL

Reject Due To

Gross	Reject
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Test Definition: AK5CS

Adenylate Kinase 5 (AK5) IgG, Cell Based Assay,
Serum (Non-Orderable)

hemolysis	
Gross lipemia	Reject
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	28 days	
	Ambient	72 hours	
	Frozen	28 days	

Clinical & Interpretive

Clinical Information

Adenylate kinase 5 IgG (AK5-IgG) is a marker intended for evaluating patients with autoimmune encephalitis, most often presenting as a non-paraneoplastic limbic encephalitis. Poor response to immunotherapy has been reported while there is no clear cancer association (non-paraneoplastic). AK5-IgG positive patients present with predominant severe amnestic syndrome, associated depression, and anxiety. Epilepsy is often absent at disease onset, however seizures may develop later.

Reference Values

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- DMS2 / Dementia, Autoimmune/Paraneoplastic Evaluation, Serum
- ENS2 / Encephalopathy, Autoimmune/Paraneoplastic Evaluation, Serum
- EPS2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Serum

Negative

Interpretation

A positive result is consistent with adenylate kinase 5 autoimmunity that manifests with non-paraneoplastic limbic encephalitis.

Cautions

A negative result does not exclude the diagnosis of autoimmune encephalitis.

Clinical Reference

1. Muuiz-Castrillo S, Hedou JJ, Ambati A, et al. Distinctive clinical presentation and pathogenic specificities of anti-AK5 encephalitis. Brain. 2021;144(9):2709-2721. doi:10.1093/brain/awab153
2. McKeon-Makki I, McKeon A, Yang B, et al. Adenylate kinase 5 (AK5) autoimmune encephalitis: Clinical presentations and outcomes in three new patients. J Neuroimmunol. 2022;367:577861. doi:10.1016/j.jneuroim.2022.577861
3. Honorat JA, Lopez-Chiriboga AS, Kryzer TJ, et al. Autoimmune gait disturbance accompanying adaptor protein-3B2-IgG. Neurology. 2019;93(10):e954-e963. doi:10.1212/WNL.0000000000008061

Performance

Method Description

Patient specimen is applied to a composite slide containing transfected and non-transfected human embryonic kidney (HEK293) cells. After incubation and washing, fluorescein-conjugated goat-antihuman IgG is applied to detect the presence of patient IgG binding.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Varies

Report Available

5 to 10 days

Specimen Retention Time

2 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
AK5CS	AK5 Ab CBA, S	In Process

Result ID	Test Result Name	Result LOINC® Value
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Test Definition: AK5CS

Adenylate Kinase 5 (AK5) IgG, Cell Based Assay,
Serum (Non-Orderable)

623401	AK5 Ab CBA, S	In Process
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