

Test Definition: AK5IC

Adenylate Kinase 5 (AK5) IgG, Tissue
Immunofluorescence, Spinal Fluid
(Non-Orderable)

Overview

Useful For

Only orderable as part of a profile. For more information see:
DMC2 / Dementia, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
ENC2 / Encephalopathy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
EPC2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid

Evaluation of patients suspected to have autoimmune encephalitis using spinal fluid specimens

Reporting adenylate kinase 5 tissue immunofluorescence results as part of a profile

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
AK5CC	AK5 Ab CBA, CSF	No	No
AK5TC	AK5 Ab IFA Titer, CSF	No	No

Testing Algorithm

If the indirect immunofluorescence (IFA) pattern suggests AK5 (adenylate kinase 5), then the AK5 antibody cell-binding assay and AK5 antibody IFA titer are performed at an additional charge.

Method Name

Only orderable as part of a profile. For more information see:
-DMC2 / Dementia, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
-ENC2 / Encephalopathy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
-EPC2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid

Indirect Immunofluorescence Assay (IFA)

NY State Available

Yes

Specimen

Specimen Type

CSF

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Specimen Minimum Volume

1.5 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
CSF	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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- ENC2 / Encephalopathy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
- EPC2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid

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**

The patient's specimen is tested by a standardized immunofluorescence assay that uses a composite frozen section of mouse cerebellum, kidney, and gut tissues. After incubation with the specimen and washing, fluorescein-conjugated goat-antihuman IgG is applied. Neuron-specific autoantibodies are identified by their characteristic fluorescence staining patterns. Specimens that are scored positive for any neuronal nuclear or cytoplasmic autoantibody are titrated. Interference by coexisting non-neuron-specific autoantibodies can usually be eliminated by serologic absorption.(Honorat JA, Komorowski L, Josephs KA, et al. IgLON5 antibody: Neurological accompaniments and outcomes in 20 patients. Neurol Neuroimmunol Neuroinflamm. 2017;4[5]:e385)

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

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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
AK5IC	AK5 Ab IFA, CSF	In Process

Result ID	Test Result Name	Result LOINC® Value
623398	AK5 Ab IFA, CSF	In Process