

# Test Definition: AK5TS

Adenylate Kinase 5 (AK5) IgG, Tissue  
Immunofluorescence Titer, Serum  
(Non-Orderable)

## Overview

### Useful For

**Only orderable as part of a profile.** 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 to have autoimmune encephalitis using serum specimens

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

### Method Name

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

Indirect Immunofluorescence Assay (IFA)

### NY State Available

Yes

## Specimen

### Specimen Type

Serum

### Specimen Required

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

### Specimen Minimum Volume

Serum: 1 mL

### Reject Due To

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|                 |        |
|-----------------|--------|
| Gross hemolysis | Reject |
| 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

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

<1:240

### Interpretation

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

### Cautions

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

### Clinical Reference

- Muiz-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
- 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
- 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

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

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Immunofluorescence Titer, Serum  
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86256

LOINC® Information

| Test ID | Test Order Name     | Order LOINC® Value |
|---------|---------------------|--------------------|
| AK5TS   | AK5 Ab IFA Titer, S | In Process         |

| Result ID | Test Result Name    | Result LOINC® Value |
|-----------|---------------------|---------------------|
| 623486    | AK5 Ab IFA Titer, S | In Process          |