

# Test Definition: AK5IS

Adenylate Kinase 5 (AK5) IgG, Tissue  
Immunofluorescence, 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 results as part of a profile

### Reflex Tests

| Test Id | Reporting Name      | Available Separately | Always Performed |
|---------|---------------------|----------------------|------------------|
| AK5CS   | AK5 Ab CBA, S       | No                   | No               |
| AK5TS   | AK5 Ab IFA Titer, S | 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:  
-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 part of a profile. For more information see:

# Test Definition: AK5IS

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

- 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

|                 |        |
|-----------------|--------|
| 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 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

Negative

### Interpretation

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

### Cautions

# Test Definition: AK5IS

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

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

#### 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.

# Test Definition: AK5IS

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

- 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 |
|---------|-----------------|--------------------|
| AK5IS   | AK5 Ab IFA, S   | In Process         |

| Result ID | Test Result Name | Result LOINC® Value |
|-----------|------------------|---------------------|
| 623399    | AK5 Ab IFA, S    | In Process          |