

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

MDC2 / Movement Disorder, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid

PCDEC / Pediatric Autoimmune Encephalopathy/CNS Disorder Evaluation, Spinal Fluid

Evaluating patients suspected of having autoimmune encephalitis using spinal fluid specimens

Reflex Tests

| Test Id | Reporting Name           | Available Separately | Always Performed |
|---------|--------------------------|----------------------|------------------|
| GL5CC   | mGluR5 Ab CBA, CSF       | No                   | No               |
| GL5TC   | mGluR5 Ab IFA Titer, CSF | No                   | No               |

Testing Algorithm

If the indirect immunofluorescence (IFA) pattern suggests mGluR5 (metabotropic glutamate receptor-5), then the mGluR5 antibody cell-binding assay and mGluR5 antibody IFA titer will be performed at an additional charge.

Method Name

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-PCDEC / Pediatric Autoimmune Encephalopathy/CNS Disorder Evaluation, Spinal Fluid

Indirect Immunofluorescence Assay (IFA)

NY State Available

Yes

Specimen

Specimen Type

CSF

# Test Definition: GL5IC

Metabotropic Glutamate Receptor-5 (mGluR5)  
IgG, Tissue Immunofluorescence, Spinal Fluid  
(Non-Orderable)

## Specimen Required

- 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
  - MDC2 / Movement Disorder, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
  - PCDEC / Pediatric Autoimmune Encephalopathy/CNS Disorder Evaluation, Spinal Fluid

## 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

Metabotropic glutamate receptor-5 (mGluR5-IgG) is a marker of autoimmune encephalitis. Patients who are mGluR5-IgG positive present with neuropsychiatric syndrome, cognitive decline, movement disorders, sleep dysfunction and seizures, which can occur with or without tumor.

### Reference Values

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  - EPC2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
  - MDC2 / Movement Disorder, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
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Negative

Metabotropic Glutamate Receptor-5 (mGluR5)  
IgG, Tissue Immunofluorescence, Spinal Fluid  
(Non-Orderable)

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**Interpretation**

A positive result is consistent with metabotropic glutamate receptor-5 (mGluR5) autoimmunity that manifests as autoimmune encephalitis.

**Cautions**

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

**Clinical Reference**

1. Spatola M, Sabater L, Planaguma J, et al. Encephalitis with mGluR5 antibodies: Symptoms and antibody effects. *Neurology*. 2018;90(22):e1964-e1972. doi:10.1212/WNL.0000000000005614

2. Maudes E, Mannara F, Garcia-Serra A, et al. Human metabotropic glutamate receptor 5 antibodies alter receptor levels and behavior in mice. *Ann Neurol*. 2022;92(1):81-86. doi:10.1002/ana.26362

3. Lancaster E, Martinez-Hernandez E, Titulaer MJ, et al. Antibodies to metabotropic glutamate receptor 5 in the Ophelia syndrome. *Neurology* 2011;77(18):1698-1701. doi:10.1212/WNL.0b013e3182364a44

Performance

**Method Description**

The patient's sample is tested by a standardized immunofluorescence assay that uses a composite frozen section of mouse cerebellum, kidney, and gut tissues. After incubation with the sample and washing, fluorescein-conjugated goat-antihuman IgG is applied. Neuron-specific autoantibodies are identified by their characteristic fluorescence staining patterns. Samples that score 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. Published 2017 Jul 18. doi:10.1212/NXI.0000000000000385)

**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

# Test Definition: GL5IC

Metabotropic Glutamate Receptor-5 (mGluR5)  
IgG, Tissue Immunofluorescence, Spinal Fluid  
(Non-Orderable)

## 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 |
|---------|--------------------|--------------------|
| GL5IC   | mGluR5 Ab IFA, CSF | In Process         |

| Result ID | Test Result Name   | Result LOINC® Value |
|-----------|--------------------|---------------------|
| 623394    | mGluR5 Ab IFA, CSF | In Process          |