

Test Definition: GL5IC

Metabotropic Glutamate Receptor-5 (mGluR5)
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
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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-DMC2 / Dementia, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
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-EPC2 / Epilepsy, Autoimmune/Paraneoplastic Evaluation, Spinal Fluid
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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

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
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Negative

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

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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