



NEW TEST

NOTIFICATION DATE: April 24, 2017

EFFECTIVE DATE: May 24, 2017

ENCEPHALOPATHY, AUTOIMMUNE EVALUATION, CSF
Test ID: ENC1

NOTE: This test orderable replaces ENCEC – Encephalopathy, Autoimmune Evaluation, CSF. The new test will add LG1CC – Leucine-Rich Glioma Inactivated Protein-1 (LGI1) IgG, CSF and CS2CC – Contactin-Associated Protein-Like-2 (CASPR2)-IgG, CSF to the profile.

USEFUL FOR: Evaluating new onset encephalopathy (noninfectious or metabolic) comprising confusional states, psychosis, delirium, memory loss, hallucinations, movement disorders, sensory or motor complaints, seizures, dyssomnias, ataxias, nausea, vomiting, inappropriate antidiuresis, coma, dysautonomias, or hypoventilation

The following accompaniments should increase of suspicion for autoimmune encephalopathy:

- Headache
- Autoimmune stigmata (personal or family history or signs of diabetes mellitus, thyroid disorder, vitiligo, poliosis [premature graying], myasthenia gravis, rheumatoid arthritis, systemic lupus erythematosus)
- History of cancer
- Smoking history (20+ pack years) or other cancer risk factors
- Inflammatory cerebral spinal fluid (or isolated protein elevation)
- Neuroimaging signs suggesting inflammation

Evaluating limbic encephalitis (noninfectious)

Directing a focused search for cancer

Investigating encephalopathy appearing in the course or wake of cancer therapy and not explainable by metastasis or drug effect

METHOD: Indirect Immunofluorescence Assay (IFA); Radioimmunoprecipitation (RIA); Cell Binding Assay (CBA); Western Blot (WB); Flow Cytometry (FACS)

Profile Information

Test ID	Reporting Name	Available Separately	Always Performed
AEECI	Encephalopathy, Interpretation, CSF	No	Yes
NMDCC	NMDA-R Ab CBA, CSF	No	Yes
VGKCC	VGKC-complex Ab IPA, CSF	No	Yes
LG1CC	LGI1-IgG CBA, CSF	No	Yes
CS2CC	CASPR2-IgG CBA, CSF	No	Yes
GD65C	GAD65 Ab Assay, CSF	Yes	Yes
GABCC	GABA-B-R Ab CBA, CSF	No	Yes
AMPCC	AMPA-R Ab CBA, CSF	No	Yes
ANN1C	Anti-Neuronal Nuclear Ab, Type 1	No	Yes
ANN2C	Anti-Neuronal Nuclear Ab, Type 2	No	Yes
ANN3C	Anti-Neuronal Nuclear Ab, Type 3	No	Yes
AGN1C	Anti-Glial Nuclear Ab, Type 1	No	Yes
PCA2C	Purkinje Cell Cytoplasmic Ab Type 2	No	Yes
PCTRC	Purkinje Cell Cytoplasmic Ab Type Tr	No	Yes
AMPHC	Amphiphysin Ab, CSF	No	Yes
CRMC	CRMP-5-IgG, CSF	No	Yes

Reflex Tests

Test ID	Reporting Name	Available Separately	Always Performed
WBNC	Paraneoplas Autoantibody WBlot,CSF	No	No
CRMWC	CRMP-5-IgG Western Blot, CSF	Yes	No
ABLTC	Amphiphysin Western Blot, CSF	No	No
NMOFC	NMO/AQP4-IgG FACS, CSF	Yes	No
NMOTC	NMO/AQP4-IgG FACS Titer, CSF	No	No
AMPIC	AMPA-R Ab IF Titer Assay, CSF	No	No
GABIC	GABA-B-R Ab IF Titer Assay, CSF	No	No
NMDIC	NMDA-R Ab IF Titer Assay, CSF	No	No

Testing Algorithm

If indirect immunofluorescence assay (IFA) (ANNA-1, ANNA-2, ANNA-3, PCA-2, PCA-Tr, Amphiphysin, CRMP-5-IgG, AGNA-1)) is indeterminate, paraneoplastic autoantibody Western blot is performed at an additional charge.

If client requests or if IFA patterns suggest CRMP-5-IgG, CRMP-5-IgG Western blot is performed at an additional charge.

If IFA patterns suggest amphiphysin antibody, amphiphysin Western blot is performed at an additional charge.

If IFA pattern suggest NMO/AQP4-IgG, NMO/AQP4-IgG FACS is performed at an additional charge.

If NMO/AQP4-IgG FACS screen assay requires further investigation, then NMO/AQP4-IgG FACS titration assay is performed at an additional charge.

If IFA pattern suggest AMPA-Receptor antibody and AMPA-Receptor antibody CBA is positive, AMPA-Receptor antibody IF titer assay is performed at an additional charge.

If IFA pattern suggest GABA-B-Receptor antibody and GABA-B-R Receptor Ab antibody is positive, GABA-B-R Receptor Ab antibody IF titer assay is performed at an additional charge.

If IFA pattern suggest NMDA-Receptor antibody and NMDA-Receptor Ab antibody CBA is positive, NMDA-Receptor Ab antibody IF titer assay is performed at an additional charge.

REFERENCE VALUES:

Anti-neuronal Nuclear Ab, Type 1 (ANNA-1), CSF	< 1:2
Anti-neuronal Nuclear Ab, Type 2 (ANNA-2), CSF	< 1:2
Anti-neuronal Nuclear Ab, Type 3 (ANNA-3), CSF	< 1:2
Purkinje Cell Cytoplasmic Ab, Type1 (PCA-1), CSF	< 1:2
Purkinje Cell Cytoplasmic Ab, Type 2 (PCA-2), CSF	< 1:2
Purkinje Cell Cytoplasmic Ab, Type Tr (PCA-Tr), CSF	< 1:2
Amphiphysin Ab, CSF	< 1:2
CRMP-5-IgG Ab, CSF	< 1:2
Anti-Glial/Neuronal Nuclear Ab, Type 1 (AGNA-1), CSF	< 1:2
Paraneoplastic Western Blot, CSF	Negative
CRMP-5-IgG Western Blot, CSF	Negative
Amphiphysin Western Blot, CSF	Negative
Glutamic Acid Decarboxylase-65 (GAD65), CSF	≤ 0.02 nmol/L
Neuronal Voltage-Gated Potassium Channel-Complex	≤ 0.02 nmol/L
Autoantibody, Spinal Fluid	
N-Methyl-D-aspartate receptor (NMDA-R), CSF	CBA: Negative IFA: < 1:2
2-amino-3-(5-methyl-3-oxo-1,2- oxazol-4-yl) propanoic acid receptor (AMPA-R), CSF	CBA: Negative IFA: < 1:2
Gamma-Amino Butyric acid-type B receptor (GABA-B-R), CSF	CBA: Negative IFA: < 1:2
LGI1-IgG CBA, CSF	Negative
CASPR2-IgG CBA, CSF	Negative
Neuromyelitis Optica (NMO)/Aquaporin-4-IgG FACS Assay, CSF	Negative

SPECIMEN REQUIREMENTS:

Supplies: Sterile Specimen Tube (T485)

Container/Tube: Sterile vial

Specimen Volume: 4 mL

Minimum Volume: 2 mL

Additional Information: Include relevant clinical information, name, phone number, mailing address, and e-mail address (if applicable) of ordering physician.

SPECIMEN STABILITY INFORMATION:

Specimen Type	Temperature	Time
CSF	Refrigerated (preferred)	28 days
	Ambient	72 hours
	Frozen	28 days

CPT CODE:

83519-Neuronal VGKC autoantibody

86255-AGNA-1

86255-Amphiphysin

86255-ANNA-1

86255-ANNA-2

86255-ANNA-3

86255-CRMP-5-IgG

86255-PCA-1

86255-PCA-2

86255-PCA-Tr

86255-AMPAR-Ab

86255-GABAR-Ab

86255-NMDAR-Ab

86341-GAD65

86255-LG1CC

86255-CS2CC

84182-Amphiphysin Western blot (if appropriate)

84182-CRMP-5 Western blot confirmation (if appropriate)

84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate)

86255-NMO/AQP4-IgG FACS (if appropriate)

86256-AMPAR-Ab titer (if appropriate)

86256-GABAR-Ab titer (if appropriate)

86256-NMDAR-Ab titer (if appropriate)

86256-NMO/AQP4-IgG FACS titer (if appropriate)

DAY(S) SET UP: Monday through Sunday	ANALYTIC TIME: 5 days
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NOTE: The following test code will become obsolete.

Test Name	Test ID
Encephalopathy, Autoimmune Evaluation, CSF	ENCEC

NOTE: The following referral test code(s) will become obsolete.

Test Name	Test ID	Referral Lab Code	Referral Lab
LGI1 Autoantibody Test	ZW127	449	Athena Diagnostics
CASPR2 Antibody Test	ZW127	499	Athena Diagnostics

QUESTIONS: Contact your Mayo Medical Laboratories' Regional Manager
Amy Ennis or Steven Monson, MML Laboratory Technologist Resource Coordinator
Telephone: 800-533-1710