

**NEW TEST**
**NOTIFICATION DATE: JUNE 2, 2014**
**EFFECTIVE DATE: JUNE 30, 2014**

## ENCEPHALOPATHY, AUTOIMMUNE EVALUATION, SPINAL FLUID

### Test ID: ENCEC

**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

### Profile Information

Test ID	Reporting Name	Available Separately	Always Performed
AEECI	Encephalopathy, Interpretation, CSF	No	Yes
ANN1C	Anti-Neuronal Nuclear Ab, Type 1, CSF	No	Yes
ANN2C	Anti-Neuronal Nuclear Ab, Type 2, CSF	No	Yes
ANN3C	Anti-Neuronal Nuclear Ab, Type 3, CSF	No	Yes
AGN1C	Anti-Glial Nuclear Ab, Type 1, CSF	No	Yes
PCA1C	Purkinje Cell Cytoplasmic Ab Type 1	No	Yes
PCA2C	Purkinje Cell Cytoplasmic Ab Type 2, CSF	No	Yes
PCTRC	Purkinje Cell Cytoplasmic Ab Type Tr, CSF	No	Yes
AMPHC	Amphiphysin Ab, CSF	No	Yes
CRMC	CRMP-5-IgG, CSF	No	Yes
AMPCC	AMPA-R Ab CBA, CSF	No	Yes
GABCC	GABA-B-R Ab CBA, CSF	No	Yes
NMDCC	NMDA-R Ab CBA, CSF	No	Yes
GD65C	GAD65 Ab Assay, CSF	Yes	Yes
VGKCC	VGKC-complex Ab IPA, 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	No	No

ABLTC	Amphiphysin Western Blot, CSF	No	No
NMOCC	NMO/AQP4-IgG CBA, CSF	Yes	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) (ANN1C, ANN2C, ANN3C, AGN1C, PCA2C, PCTRC, AMPHC, CRMC) is indeterminate, then WBNC is performed at an additional charge.

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

If IFA pattern suggest amphiphysin antibody, then ABLTC is performed at an additional charge.

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

If IFA pattern suggest AMPA-R Ab and AMPCC is positive, then AMPIC is performed at an additional charge.

If IFA pattern suggest GABA-B-R Ab and GABCC is positive, then GABIC is performed at an additional charge.

If IFA pattern suggest NMDA-R Ab and NMDCC is positive, then NMDIC is performed at an additional charge.

**METHOD:** Indirect Immunofluorescence Assay (IFA); Radioimmunoassay (RIA); Cell Binding Assay (CBA); Western Blot (WB)

### 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
Anti-Glial/Neuronal Nuclear Ab, Type 1 (AGNA-1), 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
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
VGKC-complex Ab IPA, CSF	≤ 0.02 nmol/L
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
NMO/AQP4-IgG, CSF	Negative

### SPECIMEN REQUIREMENTS:

**Container/Tube:** Plastic, screw-top tube

**Specimen Volume:** 4 mL CSF

**Minimum Volume:** 2 mL CSF

**Additional Information:** Include 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:**

86256-AGNA-1

86256-Amphiphysin

86256-ANNA-1

86256-ANNA-2

86256-ANNA-3

86256-CRMP-5-IgG

86256-PCA-1

86256-PCA-2

86256-PCA-Tr

86255-AMPCC CBA

86255-GABCC CBA

86255-NMDCC CBA

86341-GAD65

83519-VGKC

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 CBA (if appropriate)

86256-AMPIC (if appropriate)

86256-GABIC (if appropriate)

86256-NMDIC (if appropriate)

<b>DAY(S) SET UP:</b> Monday through Sunday	<b>ANALYTIC TIME:</b> 3 days if negative/5 days if positive
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QUESTIONS: Contact your Mayo Medical Laboratories' Regional Manager or  
Steven Monson, MML Laboratory Technologist Resource Coordinator  
Telephone: 800-533-1710