

## EPILEPSY, AUTOIMMUNE EVALUATION, SERUM

Test ID: EPIES

**USEFUL FOR:** Investigating new onset cryptogenic epilepsy with incomplete seizure control and duration of <2 years

Investigating new onset cryptogenic epilepsy *plus* 1 or more of the following accompaniments:

- Psychiatric accompaniments (psychosis, hallucinations)
- Movement disorder (myoclonus, tremor, dyskinesias)
- Headache
- Cognitive impairment/encephalopathy
- Autoimmune stigmata (personal history or family history or signs of diabetes mellitus, thyroid disorder, vitiligo, premature graying of hair, myasthenia gravis, rheumatoid arthritis, systemic lupus erythematosus, idiopathic adrenocortical insufficiency) or “multiple sclerosis”
- History of cancer
- Smoking history (20+ pack years) or other cancer risk factors
- Investigating seizures occurring within the context of a subacute multifocal neurological disorder without obvious cause, especially in a patient with past or family history of cancer
- A rising autoantibody titer in a previously seropositive patient suggests cancer recurrence

### Profile Information

Test ID	Reporting Name	Available Separately	Always Performed
AEPSI	Epilepsy, Interpretation, S	No	Yes
ANN1S	Anti-Neuronal Nuclear Ab, Type 1, S	No	Yes
ANN2S	Anti-Neuronal Nuclear Ab, Type 2, S	No	Yes
ANN3S	Anti-Neuronal Nuclear Ab, Type 3, S	No	Yes
AGN1S	Anti-Glial Nuclear Ab, Type 1, S	No	Yes
PCAB2	Purkinje Cell Cytoplasmic Ab Type 2, S	No	Yes
PCATR	Purkinje Cell Cytoplasmic Ab Type Tr, S	No	Yes
AMPHS	Amphiphysin Ab, S	No	Yes
CRMS	CRMP-5-IgG, S	No	Yes
AMPCS	AMPA-R Ab CBA, S	No	Yes
GABCS	GABA-B-R Ab CBA, S	No	Yes
NMDCS	NMDA-R Ab CBA, S	No	Yes
GD65S	Glutamic Acid Decarboxylase (GAD65), S	Yes	Yes
VGKC	Neuronal (V-G) K <sup>+</sup> Channel Ab, S	No	Yes
CCN	N-type Voltage-Gated Calcium Channel Ab, S	No	Yes
CCPQ	P/Q-type Voltage-Gated Calcium Channel Ab, S	No	Yes
ARBI	ACh Receptor (Muscle) Binding Ab, S	Yes	Yes
GANG	AChR Ganglionic Ab, S	No	Yes

## Reflex Tests

Test ID	Reporting Name	Available Separately	Always Performed
WBN	Paraneoplas Autoantibody WBlot, S	No	No
CRMWS	CRMP-5-IgG Western Blot, S	No	No
ABLOT	Amphiphysin Western Blot, S	No	No
NMOCS	NMO/AQP4-IgG CBA, S	Yes	No
AMPIS	AMPA-R Ab IF Titer Assay, S	No	No
GABIS	GABA-B-R Ab IF Titer Assay, S	No	No
NMDIS	NMDA-R Ab IF Titer Assay, S	No	No
PCABP	Purkinje Cell Cytoplasmic Ab Type 1, S	No	No

### Testing Algorithm:

If indirect immunofluorescence assay (IFA) patterns suggest PCA-1, then Purkinje cell cytoplasmic antibody type 1 is performed at an additional charge.

If IFA suggests ANNA1S, ANNA2S, ANNA3S, PCAB2, PCATR, AMPHS, CRMS, AGN1S, or is indeterminate, then paraneoplastic autoantibody Western blot is performed at an additional charge.

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

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

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

If IFA pattern suggest NMDA-R antibody and NMDA-R antibody CBA is positive, then NMDA-R titer is performed at an additional charge.

If IFA pattern suggest AMPA-R antibody and AMPA-R antibody CBA is positive, then AMPA-R titer is performed at an additional charge.

If IFA pattern suggest GABA-B-R antibody and GABA-B-R antibody CBA is positive, then GABA-B-R titer is performed at an additional charge.

Confirmation of GAD65 antibodies when IF screening suggests GAD65 antibodies.

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

### REFERENCE VALUES:

Anti-neuronal Nuclear Ab, Type 1 (ANNA-1), S	< 1:240
Anti-neuronal Nuclear Ab, Type 2 (ANNA-2), S	< 1:240
Anti-neuronal Nuclear Ab, Type 3 (ANNA-3), S	< 1:240
Purkinje Cell Cytoplasmic Ab, Type1 (PCA-1), S	< 1:240
Purkinje Cell Cytoplasmic Ab, Type 2 (PCA-2), S	< 1:240
Purkinje Cell Cytoplasmic Ab, Type Tr (PCA-Tr), S	< 1:240
Anti-Glial/Neuronal Nuclear Ab, Type 1 (AGNA-1), S	< 1:240
Amphiphysin Ab, S	< 1:240
CRMP-5-IgG Ab, S	< 1:240
Paraneoplastic Western Blot, S	Negative
CRMP-5-IgG Western Blot, S	Negative
Amphiphysin Western Blot, S	Negative
Glutamic Acid Decarboxylase-65 (GAD65), S	≤ 0.02 nmol/L
N-type Voltage-Gated Calcium Channel Ab, S	≤ 0.03 nmol/L
P/Q-type Voltage-Gated Calcium Channel Ab, S	≤ 0.02 nmol/L
ACh Receptor (Muscle) Binding Ab, S	≤ 0.02 nmol/L
AChR Ganglionic Ab, S	≤ 0.02 nmol/L
Neuronal (V-G) K <sup>+</sup> Channel Ab, S	≤ 0.02 nmol/L
N-Methyl-D-aspartate receptor (NMDA-R), S	CBA: Negative IFA: < 1:120

2-amino-3-(5-methyl-3-oxo-1,2-oxazol-4-yl) propanoic acid receptor (AMPA-R), S	CBA: Negative IFA: < 1:120
Gamma-Amino Butyric acid-type B receptor (GABA-B-R), S	CBA: Negative IFA: < 1:120
NMO/AQP4-IgG, S	Negative

**SPECIMEN REQUIREMENTS:**

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

**Preferred:** Red top

**Acceptable:** Serum gel

**Specimen Volume:** 4 mL serum

**Minimum Volume:** 2 mL serum

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

**SPECIMEN STABILITY INFORMATION:**

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

**CPT CODE:**

83519-ACh receptor (muscle) binding antibody

83519-AChR ganglionic neuronal antibody

83519-Neuronal VGKC autoantibody

83519-N-type calcium channel antibody

83519-P/Q-type calcium channel antibody

86256-AGNA-1

86256-Amphiphysin

86256-ANNA-1

86256-ANNA-2

86256-ANNA-3

86256-CRMP-5-IgG

86256-PCA-2

86256-PCA-Tr

86255-AMPA-R-Ab

86255-GABAR-Ab

86255-NMDAR-Ab

86341-GAD65

86256-PCA-1 (if appropriate)

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-PCA-1 (if appropriate)

86256-AMPA-R-Ab titer (if appropriate)

86256-GABAR-Ab titer (if appropriate)

86256-NMDAR-Ab titer (if appropriate)

<b>DAY(S) SET UP:</b> Monday through Sunday	<b>ANALYTIC TIME:</b> 4 days negative / 7 days 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