
Lab Dept: Serology

Test Name: EPILEPSY AUTOIMMUNE EVALUATION

General Information

Lab Order Codes: EPS1

Synonyms: N/A

CPT Codes:

- 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
- 86255-AGNA-1
- 86255-Amphiphysin
- 86255-ANNA-1
- 86255-ANNA-2
- 86255-ANNA-3
- 86255-CRMP-5-IgG
- 86255-PCA-2
- 86255-PCA-Tr
- 86255-AMPAR-Ab
- 86255-GABAR-Ab
- 86255-NMDAR-Ab
- 86255-LG1CS
- 86255-CS2CS
- 86341-GAD65

The following reflex testing may be added on at an additional charge:

- 86255-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 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)

Test Includes: ANNA-1,ANNA-2,ANNA-3,AGNA-1,PCA-2,PCA-Tr,Amphiphysin Ab,CRMP-5-IgG,P/Q-Type Calcium Channel Ab,N-Type Calcium Channel Ab,AChR Ganglionic Neuronal Ab,

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 ANN1S, ANN2S, ANN3S, 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 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 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.

Native neuronal antigens: performed to confirm neuronal nuclear and cytoplasmic Ab specificities when IF screening is uninterpretable.

Recombinant human collapsin response-mediator protein 5: performed to confirm CRMP 5-IgG when IF screening is uninterpretable. Also performed for more sensitive detection of CRMP 5-IgG.

Logistics

Test Indications: This assay is useful for investigating new onset cryptogenic epilepsy plus Psychiatric accompaniments (psychosis, hallucinations), Movement disorder (myoclonus, tremor, dyskinesias), Headache, Cognitive impairment/encephalopathy, Autoimmune stigmata, multiple sclerosis, History of Cancer, Investigation of Seizures, a rising Autoantibody titer in a previously seropositive patient suggests cancer recurrence.

Lab Testing Sections: Serology-Sendouts

Referred to: Mayo Clinical Laboratory (MML Test Code: EPS1)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 4- 10 days (performed Monday- Thursday, 04:00p.m by Friday)

Special Instructions: N/A

Specimen

Specimen Type: Blood

Container: SST (Marble,Gold or Red) tube

Draw Volume: 12 mL (Minimum:6 mL) blood

Processed Volume: 4 mL (Minimum:2 mL) blood

Collection: Routine Venipuncture

Special Processing: Lab Staff: Centrifuge specime,remove serum from cells,aliquot into a screw-capped round bottom plastic vial.Store and ship at refrigerated tempratures.Forward promptly.

Patient Preparation: None

Sample Rejection: Mislabeled or unlabeled; Gross Hemolysis or Lipemic,grossly icteric specimens.

Interpretive

Reference Range:

Antibody	Reference Range
ANNA-1	<1:240
ANNA-2	<1:240
ANNA-3	<1:240
AGNA-1	<1:240
PCA-2	<1:240
PCA-Tr	<1:240
Amphiphysin Ab	<1:240
CRMP-5-IgG	<1:240
N-Type Calcium Channel Ab	< or=0.03 nmol/L
P/Q-Type Calcium Channel Ab	< or=0.02 nmol/L
ACh Receptor(Muscle) Binding Ab	< or=0.02 nmol/L
ACh Ganglionic Neuronal Ab	< or=0.02 nmol/L
Neuronal VGKC Autoantibody	< or=0.02 nmol/L
GAD65 Ab	< or=0.02 nmol/L
NMDA-R Ab CBA	Negative
GABA-B-R- Ab CBA	Negative
LGI1-IgG CBA	Negative
CASPR2-IgG CBA	Negative
AMPA-R Ab CBA	Negative
Reflex Tests	
PCA-1	<1:240
Paraneoplastic Western Blot	Negative

CRMP-5-IgG Western Blot	Negative
Amphiphysin Western Blot	Negative
NMO/AQP4 FACS	Negative
NMO/AQP4 FACS Titer	<1:120
NMDA-R Ab IF Titer Assay	<1:120
AMPA-R-Ab IF Titer Assay	<1:120
GABA-B-R- Ab IF Titer Assay	<1:120

Critical Values:

N/A

Limitations:

Negative results do not exclude autoimmune epilepsy or cancer. This test does not detect Ma2 antibody (alias: MaTa). Ma2 antibody has been described in patients with brainstem and limbic encephalitis in the context of testicular germ cell neoplasms. Scrotal ultrasound is advisable in men who present with unexplained subacute encephalitis.

Methodology:

Indirect Immunofluorescence Assay(IFA), Radioimmunoassay (RIA)
Western Blot, Cell Binding Assay (CBA)

References:

[Mayo Clinical Laboratories](#) February 2019