



Test Definition: EPS2

Epilepsy, Autoimmune/Paraneoplastic
Evaluation, Serum

Reporting Title: Epilepsy, Autoimm/Paraneo, S

Performing Location: Mayo Clinic Laboratories - Rochester Main Campus

Ordering Guidance:

Multiple neurological phenotype-specific autoimmune/paraneoplastic evaluations are available. For more information as well as phenotype-specific testing options, see [Autoimmune Neurology Test Ordering Guide](#).

When more than one evaluation is ordered on the same order number, the duplicate test will be canceled.

For a list of antibodies performed with each evaluation, see [Autoimmune Neurology Antibody Matrix](#).

This test **should not be requested** for patients who have recently received radioisotopes, therapeutically or diagnostically, because of potential assay interference. The specific waiting period before specimen collection will depend on the isotope administered, the dose given, and the clearance rate in the individual patient. Specimens will be screened for radioactivity prior to analysis. Radioactive specimens received in the laboratory will be held 1 week and assayed if sufficiently decayed or canceled if radioactivity remains.

Necessary Information:

Provide the following information:

- Relevant clinical information
- Ordering healthcare professional's name, phone number, mailing address, and email address

Specimen Requirements:

Patient Preparation: For optimal antibody detection, specimen collection is recommended prior to initiation of immunosuppressant medication or intravenous immunoglobulin (IVIg) treatment.

Supplies: Sarstedt Aliquot Tube, 5 mL (T914)

Collection Container/Tube:

Preferred: Red top

Acceptable: Serum gel

Submission Container/Tube: Plastic vial

Specimen Volume: 4 mL

Collection Instructions: Centrifuge and aliquot serum into a plastic vial.

Forms:

[If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request](#) (T732) with the specimen.

| Specimen Type | Temperature | Time | Special Container |
|---------------|--------------------------|----------|-------------------|
| Serum | Refrigerated (preferred) | 28 days | |
| | Ambient | 72 hours | |
| | Frozen | 28 days | |

Result Codes:

| Result ID | Reporting Name | Type | Unit | LOINC® |
|-----------|-----------------------------|--------------|--------|----------|
| 89080 | AGNA-1, S | Alphanumeric | | 84927-3 |
| 81722 | Amphiphysin Ab, S | Alphanumeric | | 72327-0 |
| 80150 | ANNA-1, S | Alphanumeric | | 33615-6 |
| 80776 | ANNA-2, S | Alphanumeric | | 43187-4 |
| 83137 | ANNA-3, S | Alphanumeric | | 43102-3 |
| 83077 | CRMP-5-IgG, S | Alphanumeric | | 72504-4 |
| 81596 | GAD65 Ab Assay, S | Numeric | nmol/L | 94345-6 |
| 83138 | PCA-2, S | Alphanumeric | | 84925-7 |
| 83076 | PCA-Tr, S | Alphanumeric | | 84926-5 |
| 61516 | NMDA-R Ab CBA, S | Alphanumeric | | 93503-1 |
| 61518 | AMPA-R Ab CBA, S | Alphanumeric | | 93489-3 |
| 61519 | GABA-B-R Ab CBA, S | Alphanumeric | | 93428-1 |
| 34259 | Epilepsy, Interpretation, S | Alphanumeric | | 69048-7 |
| 618898 | IFA Notes | Alphanumeric | | 48767-8 |
| 64279 | LGI1-IgG CBA, S | Alphanumeric | | 94287-0 |
| 64281 | CASPR2-IgG CBA, S | Alphanumeric | | 94285-4 |
| 64933 | DPPX Ab CBA, S | Alphanumeric | | 94676-4 |
| 64928 | mGluR1 Ab IFA, S | Alphanumeric | | 94347-2 |
| 605155 | GFAP IFA, S | Alphanumeric | | 94346-4 |
| 615867 | Neurochondrin IFA, S | Alphanumeric | | 101452-1 |
| 616445 | TRIM46 Ab IFA, S | Alphanumeric | | 105525-0 |
| 620068 | PDE10A Ab IFA, S | Alphanumeric | | 103842-1 |

LOINC® and CPT codes are provided by the performing laboratory.

Supplemental Report:

No

Components:

| Test Id | Reporting Name | CPT Units | CPT Code | Always Performed | Available Separately |
|---------|----------------------------------|-----------|----------|------------------|----------------------|
| AEPSI | Epilepsy, Interpretation, S | | | Yes | No |
| AMPCS | AMPA-R Ab CBA, S | 1 | 86255 | Yes | No |
| AMPHS | Amphiphysin Ab, S | 1 | 86255 | Yes | No |
| AGN1S | Anti-Glial Nuclear Ab, Type 1 | 1 | 86255 | Yes | No |
| ANN1S | Anti-Neuronal Nuclear Ab, Type 1 | 1 | 86255 | Yes | No |
| ANN2S | Anti-Neuronal Nuclear Ab, Type 2 | 1 | 86255 | Yes | No |
| ANN3S | Anti-Neuronal Nuclear Ab, Type 3 | 1 | 86255 | Yes | No |
| CS2CS | CASPR2-IgG CBA, S | 1 | 86255 | Yes | No |
| CRMS | CRMP-5-IgG, S | 1 | 86255 | Yes | No |
| DPPCS | DPPX Ab CBA, S | 1 | 86255 | Yes | No |

| | | | | | |
|-------|--------------------------------------|---|-------|-----|-----|
| GABCS | GABA-B-R Ab CBA, S | 1 | 86255 | Yes | No |
| GD65S | GAD65 Ab Assay, S | 1 | 86341 | Yes | Yes |
| GFAIS | GFAP IFA, S | 1 | 86255 | Yes | No |
| LG1CS | LGI1-IgG CBA, S | 1 | 86255 | Yes | No |
| GL1IS | mGluR1 Ab IFA, S | 1 | 86255 | Yes | No |
| NCDIS | Neurochondrin IFA, S | 1 | 86255 | Yes | No |
| NMDCS | NMDA-R Ab CBA, S | 1 | 86255 | Yes | No |
| PCAB2 | Purkinje Cell Cytoplasmic Ab Type 2 | 1 | 86255 | Yes | No |
| PCATR | Purkinje Cell Cytoplasmic Ab Type Tr | 1 | 86255 | Yes | No |
| PDEIS | PDE10A Ab IFA, S | 1 | 86255 | Yes | No |
| T46IS | TRIM46 Ab IFA, S | 1 | 86255 | Yes | No |

CPT Code Information:

86255 x 19

86341

84182-AGNBS (if appropriate)

86256-AGNTS (if appropriate)

86256-AMPIS (if appropriate)

84182-AMIBS (if appropriate)

84182-AN1BS (if appropriate)

86256-AN1TS (if appropriate)

84182-AN2BS (if appropriate)

86256-AN2TS (if appropriate)

86256-AN3TS (if appropriate)

86256-APHTS (if appropriate)

86256-CRMTS (if appropriate)

84182-CRMWS (if appropriate)

86256-DPPTS (if appropriate)

86256-GABIS (if appropriate)

86255-GFACS (if appropriate)

86256-GFATS (if appropriate)

86255-GL1CS (if appropriate)

86256-GL1TS (if appropriate)

86255-NCDCS (if appropriate)

86256-NCDTS (if appropriate)

86256-NMDIS (if appropriate)

86256-PC2TS (if appropriate)

84182-PCTBS (if appropriate)

86256-PCTTS (if appropriate)

86256-PDETS (if appropriate)

86255-T46CS (if appropriate)

86256-T46TS (if appropriate)

Reflex Tests:

| Test ID | Reporting Name | CPT Units | CPT Code | Always Performed | Available Separately |
|---------|-------------------------------|-----------|----------|------------------|----------------------|
| AGNBS | AGNA-1 Immunoblot, S | 1 | 84182 | No | No |
| AMPIS | AMPA-R Ab IF Titer Assay, S | 1 | 86256 | No | No |
| AMIBS | Amphiphysin Immunoblot, S | 1 | 84182 | No | No |
| AN1BS | ANNA-1 Immunoblot, S | 1 | 84182 | No | No |
| AN2BS | ANNA-2 Immunoblot, S | 1 | 84182 | No | No |
| CRMWS | CRMP-5-IgG Western Blot, S | 1 | 84182 | No | Yes |
| DPPTS | DPPX Ab IFA Titer, S | 1 | 86256 | No | No |
| GABIS | GABA-B-R Ab IF Titer Assay, S | 1 | 86256 | No | No |
| GFACS | GFAP CBA, S | 1 | 86255 | No | No |
| GFATS | GFAP IFA Titer, S | 1 | 86256 | No | No |
| GL1CS | mGluR1 Ab CBA, S | 1 | 86255 | No | No |
| GL1TS | mGluR1 Ab IFA Titer, S | 1 | 86256 | No | No |
| NMDIS | NMDA-R Ab IF Titer Assay, S | 1 | 86256 | No | No |
| PCTBS | PCA-Tr Immunoblot, S | 1 | 84182 | No | No |
| AGNTS | AGNA-1 Titer, S | 1 | 86256 | No | No |
| AN1TS | ANNA-1 Titer, S | 1 | 86256 | No | No |
| AN2TS | ANNA-2 Titer, S | 1 | 86256 | No | No |
| AN3TS | ANNA-3 Titer, S | 1 | 86256 | No | Yes |
| APHTS | Amphiphysin Ab Titer, S | 1 | 86256 | No | No |
| CRMTS | CRMP-5-IgG Titer, S | 1 | 86256 | No | No |
| NCDCS | Neurochondrin CBA, S | 1 | 86255 | No | No |
| NCDTS | Neurochondrin IFA Titer, S | 1 | 86256 | No | No |
| PC2TS | PCA-2 Titer, S | 1 | 86256 | No | No |
| PCTTS | PCA-Tr Titer, S | 1 | 86256 | No | No |
| PDETS | PDE10A Ab IFA Titer, S | 1 | 86256 | No | No |
| T46CS | TRIM46 Ab CBA, S | 1 | 86255 | No | No |
| T46TS | TRIM46 Ab IFA Titer, S | 1 | 86256 | No | No |

Result Codes for Reflex Tests:

| Test ID | Result ID | Reporting Name | Type | Unit | LOINC® |
|---------|-----------|-------------------------------|--------------|-------|------------|
| CRMWS | 83107 | CRMP-5-IgG Western Blot, S | Alphanumeric | | 47401-5 |
| AMPIS | 61504 | AMPA-R Ab IF Titer Assay, S | Alphanumeric | titer | 93490-1 |
| GABIS | 61505 | GABA-B-R Ab IF Titer Assay, S | Alphanumeric | titer | 93427-3 |
| NMDIS | 61497 | NMDA-R Ab IF Titer Assay, S | Alphanumeric | titer | In Process |
| DPPTS | 64992 | DPPX Ab IFA Titer, S | Alphanumeric | titer | 94675-6 |
| GL1CS | 64932 | mGluR1 Ab CBA, S | Alphanumeric | | 93498-4 |
| GL1TS | 64990 | mGluR1 Ab IFA Titer, S | Alphanumeric | titer | 93499-2 |
| GFATS | 605133 | GFAP IFA Titer, S | Alphanumeric | titer | 93423-2 |

| | | | | | |
|-------|--------|----------------------------|--------------|-------|------------|
| GFACS | 605153 | GFAP CBA, S | Alphanumeric | | 93424-0 |
| AGNBS | 607270 | AGNA-1 Immunoblot, S | Alphanumeric | | 83001-8 |
| AMIBS | 607268 | Amphiphysin Immunoblot, S | Alphanumeric | | 94385-2 |
| AN2BS | 607262 | ANNA-2 Immunoblot, S | Alphanumeric | | 94387-8 |
| AN1BS | 607260 | ANNA-1 Immunoblot, S | Alphanumeric | | 94389-4 |
| PCTBS | 607266 | PCA-Tr Immunoblot, S | Alphanumeric | | 82999-4 |
| AN2TS | 43432 | ANNA-2 Titer, S | Alphanumeric | titer | 94343-1 |
| NDCS | 615865 | Neurochondrin CBA, S | Alphanumeric | | 101450-5 |
| PC2TS | 43438 | PCA-2 Titer, S | Alphanumeric | titer | 94351-4 |
| AN3TS | 43433 | ANNA-3 Titer, S | Alphanumeric | titer | 94344-9 |
| AGNTS | 43434 | AGNA-1 Titer, S | Alphanumeric | titer | 94341-5 |
| APHTS | 618165 | Amphiphysin Ab Titer, S | Alphanumeric | titer | 94340-7 |
| AN1TS | 43431 | ANNA-1 Titer, S | Alphanumeric | titer | 94342-3 |
| NCDTS | 616111 | Neurochondrin IFA Titer, S | Alphanumeric | titer | In Process |
| CRMTS | 43436 | CRMP-5-IgG Titer, S | Alphanumeric | titer | 94815-8 |
| PCTTS | 43439 | PCA-Tr Titer, S | Alphanumeric | titer | 94352-2 |
| T46CS | 616449 | TRIM46 Ab CBA, S | Alphanumeric | | 105525-0 |
| PDETS | 620070 | PDE10A Ab IFA Titer, S | Alphanumeric | titer | 105523-5 |
| T46TS | 616447 | TRIM46 Ab IFA Titer, S | Alphanumeric | titer | 105527-6 |

Reference Values:

| Test ID | Reporting Name | Methodology* | Reference Value |
|---------|----------------------------------|------------------------|---|
| AEPSI | Epilepsy, Interpretation, S | Medical interpretation | Interpretive report |
| AMPCS | AMPA-R Ab CBA, S | CBA | Negative |
| AMPHS | Amphiphysin Ab, S | IFA | Negative |
| AGN1S | Anti-Glial Nuclear Ab, Type 1 | IFA | Negative |
| ANN1S | Anti-Neuronal Nuclear Ab, Type 1 | IFA | Negative |
| ANN2S | Anti-Neuronal Nuclear Ab, Type 2 | IFA | Negative |
| ANN3S | Anti-Neuronal Nuclear Ab, Type 3 | IFA | Negative |
| CS2CS | CASPR2-IgG CBA, S | CBA | Negative |
| CRMS | CRMP-5-IgG, S | IFA | Negative |
| DPPCS | DPPX Ab CBA, S | CBA | Negative |
| GABCS | GABA-B-R Ab CBA, S | CBA | Negative |
| GD65S | GAD65 Ab Assay, S | RIA | < or =0.02 nmol/L Reference values apply to all ages |
| GFAIS | GFAP IFA, S | IFA | Negative |
| LG1CS | LGI1-IgG CBA, S | CBA | Negative |
| GL1IS | mGluR1 Ab IFA, S | IFA | Negative |
| NCDIS | Neurochondrin IFA, S | IFA | Negative |

| | | | |
|-------|--------------------------------------|-----|----------|
| NMDCS | NMDA-R Ab CBA, S | CBA | Negative |
| PCAB2 | Purkinje Cell Cytoplasmic Ab Type 2 | IFA | Negative |
| PCATR | Purkinje Cell Cytoplasmic Ab Type Tr | IFA | Negative |
| PDEIS | PDE10A Ab IFA, S | IFA | Negative |
| T46IS | TRIM46 Ab IFA, S | IFA | Negative |

Reflex Information:

| Test ID | Reporting Name | Methodology* | Reference Value |
|---------|-------------------------------|--------------|-----------------|
| AGNBS | AGNA-1 Immunoblot, S | IB | Negative |
| AGNTS | AGNA-1 Titer, S | IFA | <1:240 |
| AMPIS | AMPA-R Ab IF Titer Assay, S | IFA | <1:240 |
| AMIBS | Amphiphysin Immunoblot, S | IB | Negative |
| AN1BS | ANNA-1 Immunoblot, S | IB | Negative |
| AN1TS | ANNA-1 Titer, S | IFA | <1:240 |
| AN2BS | ANNA-2 Immunoblot, S | IB | Negative |
| AN2TS | ANNA-2 Titer, S | IFA | <1:240 |
| AN3TS | ANNA-3 Titer, S | IFA | <1:240 |
| APHTS | Amphiphysin Ab Titer, S | IFA | <1:240 |
| CRMTS | CRMP-5-IgG Titer, S | IFA | <1:240 |
| CRMWS | CRMP-5-IgG Western Blot, S | WB | Negative |
| DPPTS | DPPX Ab IFA Titer, S | IFA | <1:240 |
| GABIS | GABA-B-R Ab IF Titer Assay, S | IFA | <1:240 |
| GFACS | GFAP CBA, S | CBA | Negative |
| GFATS | GFAP IFA Titer, S | IFA | <1:240 |
| GL1CS | mGluR1 Ab CBA, S | CBA | Negative |
| GL1TS | mGluR1 Ab IFA Titer, S | IFA | <1:240 |
| NDCS | Neurochondrin CBA, S | CBA | Negative |
| NCDTS | Neurochondrin IFA Titer, S | IFA | <1:240 |
| NMDIS | NMDA-R Ab IF Titer Assay, S | IFA | <1:240 |
| PC2TS | PCA-2 Titer, S | IFA | <1:240 |
| PCTBS | PCA-Tr Immunoblot, S | IB | Negative |
| PCTTS | PCA-Tr Titer, S | IFA | <1:240 |
| PDETS | PDE10A Ab IFA Titer, S | IFA | <1:240 |
| T46CS | TRIM46 Ab CBA, S | CBA | Negative |
| T46TS | TRIM46 Ab IFA Titer, S | IFA | <1:240 |

*Methodology abbreviations:

Immunofluorescence assay (IFA)

Cell-binding assay (CBA)

Western blot (WB)

Radioimmunoassay (RIA)

Immunoblot (IB)

Neuron-restricted patterns of IgG staining that do not fulfill criteria for ANNA-1, ANNA-2, ANNA-3, PCA-2, or PCA-Tr may be reported as "unclassified anti-neuronal IgG." Complex patterns that include nonneuronal elements may be reported as "uninterpretable."

Note: CRMP-5 titers lower than 1:240 are detectable by recombinant CRMP-5 Western blot analysis. CRMP-5 Western blot analysis will be done on request on stored serum (held 4 weeks). This supplemental testing is recommended in cases of chorea, vision loss, cranial neuropathy, and myelopathy. Call the Neuroimmunology Laboratory at 800-533-1710 to request CRMP-5 Western blot.