



Test Definition: EPC2

Epilepsy, Autoimmune/Paraneoplastic
Evaluation, Spinal Fluid

Reporting Title: Epilepsy, Autoimm/Paraneo, CSF

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 will be canceled.

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

Necessary Information:

Provide the following information:

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

Specimen Requirements:

Container/Tube: Sterile vial

Preferred: Collection vial number 1

Acceptable: Any collection vial

Specimen Volume: 4 mL

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
CSF	Refrigerated (preferred)	28 days	
	Ambient	72 hours	
	Frozen	28 days	

Result Codes:

Result ID	Reporting Name	Type	Unit	LOINC®
89079	AGNA-1, CSF	Alphanumeric		90827-7
5906	Amphiphysin Ab, CSF	Alphanumeric		90815-2
3852	ANNA-1, CSF	Alphanumeric		44768-0
7472	ANNA-2, CSF	Alphanumeric		56959-0
21633	ANNA-3, CSF	Alphanumeric		90836-8
21650	CRMP-5-IgG, CSF	Alphanumeric		63216-6
21632	PCA-2, CSF	Alphanumeric		90843-4
21631	PCA-Tr, CSF	Alphanumeric		90845-9
21702	GAD65 Ab Assay, CSF	Numeric	nmol/L	94711-9

61513	NMDA-R Ab CBA, CSF	Alphanumeric		93502-3
61514	AMPA-R Ab CBA, CSF	Alphanumeric		93491-9
61515	GABA-B-R Ab CBA, CSF	Alphanumeric		93426-5
34258	Epilepsy, Interpretation, CSF	Alphanumeric		69048-7
618897	IFA Notes	Alphanumeric		48767-8
64280	LGI1-IgG CBA, CSF	Alphanumeric		94288-8
64282	CASPR2-IgG CBA, CSF	Alphanumeric		94286-2
64927	mGluR1 Ab IFA, CSF	Alphanumeric		94361-3
64934	DPPX Ab CBA, CSF	Alphanumeric		94283-9
605156	GFAP IFA, CSF	Alphanumeric		94360-5
615866	Neurochondrin IFA, CSF	Alphanumeric		101451-3
620067	PDE10A Ab IFA, CSF	Alphanumeric		103842-1
616446	TRIM46 Ab IFA, CSF	Alphanumeric		103843-9

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
AEPCI	Epilepsy, Interpretation, CSF			Yes	No
AMPCC	AMPA-R Ab CBA, CSF	1	86255	Yes	No
AMPHC	Amphiphysin Ab, CSF	1	86255	Yes	No
AGN1C	Anti-Glial Nuclear Ab, Type 1	1	86255	Yes	No
ANN1C	Anti-Neuronal Nuclear Ab, Type 1	1	86255	Yes	No
ANN2C	Anti-Neuronal Nuclear Ab, Type 2	1	86255	Yes	No
ANN3C	Anti-Neuronal Nuclear Ab, Type 3	1	86255	Yes	No
CS2CC	CASPR2-IgG CBA, CSF	1	86255	Yes	No
CRMC	CRMP-5-IgG, CSF	1	86255	Yes	No
DPPCC	DPPX Ab CBA, CSF	1	86255	Yes	No
GD65C	GAD65 Ab Assay, CSF	1	86341	Yes	Yes
GABCC	GABA-B-R Ab CBA, CSF	1	86255	Yes	No
GFAIC	GFAP IFA, CSF	1	86255	Yes	No
LG1CC	LGI1-IgG CBA, CSF	1	86255	Yes	No
GL1IC	mGluR1 Ab IFA, CSF	1	86255	Yes	No
NCDIC	Neurochondrin IFA, CSF	1	86255	Yes	No
NMDCC	NMDA-R Ab CBA, CSF	1	86255	Yes	No
PCTRC	Purkinje Cell Cytoplasmic Ab Type Tr	1	86255	Yes	No
PCA2C	Purkinje Cell Cytoplasmic Ab Type 2	1	86255	Yes	No
PDEIC	PDE10A Ab IFA, CSF	1	86255	Yes	No

T46IC	TRIM46 Ab IFA, CSF	1	86255	Yes	No
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CPT Code Information:

- 86255 x 19
- 86341 x 1
- 84182-AGNBC (if appropriate)
- 86256-AGNTC (if appropriate)
- 86256-AMPIC (if appropriate)
- 84182-AMIBC (if appropriate)
- 84182-AN1BC (if appropriate)
- 86256 AN1TC (if appropriate)
- 84182-AN2BC (if appropriate)
- 86256-AN2TC (if appropriate)
- 86256-AN3TC (if appropriate)
- 86256-APHTC (if appropriate)
- 86256-CRMTC (if appropriate)
- 84182-CRMWC (if appropriate)
- 86256-DPPTC (if appropriate)
- 86256-GABIC (if appropriate)
- 86255-GFACC (if appropriate)
- 86256-GFATC (if appropriate)
- 86255-GL1CC (if appropriate)
- 86256-GL1TC (if appropriate)
- 86255-NCDCC (if appropriate)
- 86256-NCDTC (if appropriate)
- 86256-NMDIC (if appropriate)
- 86256-PC2TC (if appropriate)
- 84182-PCTBC (if appropriate)
- 86256-PCTTC (if appropriate)
- 86256-PDETC (if appropriate)
- 86255-T46CC (if appropriate)
- 86256-T46TC (if appropriate)

Reflex Tests:

Test Id	Reporting Name	CPT Units	CPT Code	Always Performed	Available Separately
AGNBC	AGNA-1 Immunoblot, CSF	1	84182	No	No
AMPIC	AMPA-R Ab IF Titer Assay, CSF	1	86256	No	No
AMIBC	Amphiphysin Immunoblot, CSF	1	84182	No	No
AN1BC	ANNA-1 Immunoblot, CSF	1	84182	No	No
AN2BC	ANNA-2 Immunoblot, CSF	1	84182	No	No
CRMWC	CRMP-5-IgG Western Blot, CSF	1	84182	No	Yes
DPPTC	DPPX Ab IFA Titer, CSF	1	86256	No	No
GABIC	GABA-B-R Ab IF Titer Assay, CSF	1	86256	No	No

GFACC	GFAP CBA, CSF	1	86255	No	No
GFATC	GFAP IFA Titer, CSF	1	86256	No	No
GL1CC	mGluR1 Ab CBA, CSF	1	86255	No	No
GL1TC	mGluR1 Ab IFA Titer, CSF	1	86256	No	No
NMDIC	NMDA-R Ab IF Titer Assay, CSF	1	86256	No	No
PCTBC	PCA-Tr Immunoblot, CSF	1	84182	No	No
AGNTC	AGNA-1 Titer, CSF	1	86256	No	No
AN1TC	ANNA-1 Titer, CSF	1	86256	No	No
AN2TC	ANNA-2 Titer, CSF	1	86256	No	No
AN3TC	ANNA-3 Titer, CSF	1	86256	No	No
APHTC	Amphiphysin Ab Titer, CSF	1	86256	No	No
CRMTC	CRMP-5-IgG Titer, CSF	1	86256	No	No
NCDCC	Neurochondrin CBA, CSF	1	86255	No	No
NCDTC	Neurochondrin IFA Titer, CSF	1	86256	No	No
PC2TC	PCA-2 Titer, CSF	1	86256	No	No
PCTTC	PCA-Tr Titer, CSF	1	86256	No	No
PDETC	PDE10A Ab IFA Titer, CSF	1	86256	No	No
T46CC	TRIM46 Ab CBA, CSF	1	86255	No	No
T46TC	TRIM46 Ab IFA Titer, CSF	1	86256	No	No

Result Codes for Reflex Tests:

Test ID	Result ID	Reporting Name	Type	Unit	LOINC®
CRMWC	21747	CRMP-5-IgG Western Blot, CSF	Alphanumeric		53707-6
NMDIC	61523	NMDA-R Ab IF Titer Assay, CSF	Alphanumeric	titer	In Process
GABIC	61525	GABA-B-R Ab IF Titer Assay, CSF	Alphanumeric	titer	93425-7
AMPIC	61524	AMPA-R Ab IF Titer Assay, CSF	Alphanumeric	titer	93492-7
DPPTC	64991	DPPX Ab IFA Titer, CSF	Alphanumeric	titer	94284-7
GL1CC	64931	mGluR1 Ab CBA, CSF	Alphanumeric		93500-7
GL1TC	64989	mGluR1 Ab IFA Titer, CSF	Alphanumeric	titer	93501-5
GFATC	605134	GFAP IFA Titer, CSF	Alphanumeric	titer	93421-6
GFACC	605154	GFAP CBA, CSF	Alphanumeric		93422-4
AGNBC	607271	AGNA-1 Immunoblot, CSF	Alphanumeric		94383-7
AN1BC	607261	ANNA-1 Immunoblot, CSF	Alphanumeric		94390-2
AN2BC	607263	ANNA-2 Immunoblot, CSF	Alphanumeric		94388-6
PCTBC	607267	PCA-Tr Immunoblot, CSF	Alphanumeric		94386-0
AMIBC	607269	Amphiphysin Immunoblot, CSF	Alphanumeric		94384-5
AGNTC	43443	AGNA-1 Titer, CSF	Alphanumeric	titer	94355-5
AN1TC	43440	ANNA-1 Titer, CSF	Alphanumeric	titer	94356-3
CRMTC	43445	CRMP-5-IgG Titer, CSF	Alphanumeric	titer	94706-9
NCDTC	616112	Neurochondrin IFA Titer, CSF	Alphanumeric	titer	101453-9
APHTC	618164	Amphiphysin Ab Titer, CSF	Alphanumeric	titer	94354-8

AN2TC	43441	ANNA-2 Titer, CSF	Alphanumeric	titer	94357-1
PCTTC	43448	PCA-Tr Titer, CSF	Alphanumeric	titer	94362-1
AN3TC	43442	ANNA-3 Titer, CSF	Alphanumeric	titer	94358-9
PC2TC	43447	PCA-2 Titer, CSF	Alphanumeric	titer	94364-7
NCDCC	615864	Neurochondrin CBA, CSF	Alphanumeric		101449-7
T46CC	616450	TRIM46 Ab CBA, CSF	Alphanumeric		105524-3
T46TC	616448	TRIM46 Ab IFA Titer, CSF	Alphanumeric	titer	105526-8
PDETC	620069	PDE10A Ab IFA Titer, CSF	Alphanumeric	titer	105522-7

Reference Values:

Test ID	Reporting Name	Methodology*	Reference Value
AEPCI	Epilepsy, Interpretation, CSF	Medical interpretation	Interpretive report
AMPCC	AMPA-R Ab CBA, CSF	CBA	Negative
AMPHC	Amphiphysin Ab, CSF	IFA	Negative
AGN1C	Anti-Glial Nuclear Ab, Type 1	IFA	Negative
ANN1C	Anti-Neuronal Nuclear Ab, Type 1	IFA	Negative
ANN2C	Anti-Neuronal Nuclear Ab, Type 2	IFA	Negative
ANN3C	Anti-Neuronal Nuclear Ab, Type 3	IFA	Negative
CS2CC	CASPR2-IgG CBA, CSF	CBA	Negative
CRMC	CRMP-5-IgG, CSF	IFA	Negative
DPPCC	DPPX Ab CBA, CSF	CBA	Negative
GABCC	GABA-B-R Ab CBA, CSF	CBA	Negative
GD65C	GAD65 Ab Assay, CSF	RIA	< or =0.02 nmol/L Reference values apply to all ages.
GFAIC	GFAP IFA, CSF	IFA	Negative
LG1CC	LGI1-IgG CBA, CSF	CBA	Negative
GL1IC	mGluR1 Ab IFA, CSF	IFA	Negative
NCDIC	Neurochondrin IFA, CSF	IFA	Negative
NMDCC	NMDA-R Ab CBA, CSF	CBA	Negative
PCTRC	Purkinje Cell Cytoplasmic Ab Type Tr	IFA	Negative
PCA2C	Purkinje Cell Cytoplasmic Ab Type 2	IFA	Negative
PDEIC	PDE10A Ab IFA, CSF	IFA	Negative
T46IC	TRIM46 Ab IFA, CSF	IFA	Negative

Reflex Information:

Test ID	Reporting Name	Methodology*	Reference Value
AGNBC	AGNA-1 Immunoblot, CSF	IB	Negative
AGNTC	AGNA-1 Titer, CSF	IFA	<1:2
AMPIC	AMPA-R Ab IF Titer Assay, CSF	IFA	<1:2
AMIBC	Amphiphysin Immunoblot, CSF	IB	Negative
AN1BC	ANNA-1 Immunoblot, CSF	IB	Negative
AN1TC	ANNA-1 Titer, CSF	IFA	<1:2
AN2BC	ANNA-2 Immunoblot, CSF	IB	Negative
AN2TC	ANNA-2 Titer, CSF	IFA	<1:2
AN3TC	ANNA-3 Titer, CSF	IFA	<1:2
APHTC	Amphiphysin Ab Titer, CSF	IFA	<1:2
CRMTC	CRMP-5-IgG Titer, CSF	IFA	<1:2
CRMWC	CRMP-5-IgG Western Blot, CSF	WB	Negative
DPPTC	DPPX Ab IFA Titer, CSF	IFA	<1:2
GABIC	GABA-B-R Ab IF Titer Assay, CSF	IFA	<1:2
GFACC	GFAP CBA, CSF	CBA	Negative
GFATC	GFAP IFA Titer, CSF	IFA	<1:2
GL1CC	mGluR1 Ab CBA, CSF	CBA	Negative
GL1TC	mGluR1 Ab IFA Titer, CSF	IFA	<1:2
NCDCC	Neurochondrin CBA, CSF	CBA	Negative
NCDTC	Neurochondrin IFA Titer, CSF	IFA	<1:2
NMDIC	NMDA-R Ab IF Titer Assay, CSF	IFA	<1:2
PC2TC	PCA-2 Titer, CSF	IFA	<1:2
PCTBC	PCA-Tr Immunoblot, CSF	IB	Negative
PCTTC	PCA-Tr Titer, CSF	IFA	<1:2
PDETC	PDE10A Ab IFA Titer, CSF	IFA	<1:2
T46CC	TRIM46 Ab CBA, CSF	CBA	Negative
T46TC	TRIM46 Ab IFA Titer, CSF	IFA	<1:2

***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 antineuronal IgG." Complex patterns that include non-neuronal elements may be reported as "uninterpretable."

Note: CRMP-5 titers lower than 1:2 are detectable by recombinant CRMP-5 Western blot analysis. CRMP-5 Western blot analysis will be done on request on stored spinal fluid (held for 4 weeks). This supplemental testing is recommended in

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Epilepsy, Autoimmune/Paraneoplastic
Evaluation, Spinal Fluid

cases of chorea, vision loss, cranial neuropathy, and myelopathy. Call the Neuroimmunology Laboratory at 800-533-1710 to request CRMP-5 Western blot.