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PATIENT REPORT

Patient Age/Sex: Unknown

Specimen Collected: 18-Dec-23 09:38

Autoimmune Epilepsy Panel, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:54**

Procedure	Result	Units	Reference Interval
NMDA Receptor Ab IgG CBA-IFA,CSF	**1:160** * f1 i1		[< 1:1]
Paraneoplastic Abs (PCCA/ANNA) IgG,CSF	**ANNA Detected** * f2 i2		[None Detected]
AMPA Receptor Ab IgG CBA-IFA Screen,CSF	**Detected** * t1 i3		[< 1:1]
GABA-BR Ab IgG CBA-IFA Screen, CSF	**Detected** * t2 i4		[< 1:1]
CASPR2 Ab IgG CBA-IFA Screen,CSF	**Detected** * t3 i5		[< 1:1]
LGI1 Ab IgG CBA-IFA Screen,CSF	**Detected** * t4 i6		[< 1:1]
CV2 Ab IgG CBA-IFA Screen,CSF	**Detected** * t5 i7		[< 1:1]
SOX1 Antibody,IgG by Immunoblot, CSF	**Positive** * i8		[Negative]
Amphiphysin Antibody,CSF	**High Positive** * i9		[Negative]
DPPX Ab IgG CBA-IFA Screen,CSF	**Detected** * t6 i10		[< 1:1]
GABA-AR Ab IgG CBA-IFA Screen, CSF	**Detected** * t7 i11		[< 1:1]
mGluR1 Ab IgG CBA-IFA Screen,CSF	**Detected** * t8 i12		[< 1:1]
Glutamic Acid Decarboxylase Antibody CSF	**10.0** H i13	IU/mL	[0.0-5.0]

Neuronal Nuclear Abs IgG, IB, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:54**

Procedure	Result	Units	Reference Interval
Neuronal Nuclear Ab (Hu) IgG,IB, CSF	**Positive** * i14		[Negative]
Neuronal Nuclear Ab (Ri) IgG,IB, CSF	**Positive** * i15		[Negative]
Neuronal Nuclear Ab (Yo) IgG,IB, CSF	**Positive** * i16		[Negative]
Neuronal Nuclear Ab (TR/DNER) IgG,CSF	**Positive** * i17		[Negative]

Neuronal Nuclear Antibody Titer, IgG CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:54**

Procedure	Result	Units	Reference Interval
Neuronal Nuclear Ab Titer,IgG CSF	**1:80** * i18		[< 1:1]

AMPA Rptr Ab IgG Titer by CBA-IFA, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
AMPA Receptor Ab IgG CBA-IFA Titer,CSF	**1:80** * i19		[< 1:1]

*=Abnormal, #=Corrected, C=Critical, f=Result Footnote, H-High, i-Test Information, L-Low, t-Interpretive Text, @=Performing lab

CASPR2 Ab IgG Titer by CBA-IFA, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
CASPR2 Ab IgG CBA-IFA Titer,CSF	**1:40** * i20		[< 1:1]

CV2 Ab IgG Titer by CBA-IFA, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
CV2 Ab IgG CBA-IFA Titer,CSF	**1:40** * i21		[< 1:1]

DPPX Ab IgG Titer by CBA-IFA, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
DPPX Ab IgG CBA-IFA Titer,CSF	**1:20** * i22		[< 1:1]

GABA-A Receptor IgG CBA-IFA Titer, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
GABA-AR Ab IgG CBA-IFA Titer,CSF	**1:80** * i23		[< 1:1]

GABA-B Rptr Ab IgG Titer by CBA-IFA, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
GABA-BR Ab IgG CBA-IFA Titer,CSF	**1:40** * i24		[< 1:1]

LGI1 Ab IgG Titer by CBA-IFA, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
LGI1 Ab IgG CBA-IFA Titer,CSF	**1:20** * i25		[< 1:1]

mGluR1 Ab IgG CBA-IFA Titer, CSF | **Received: 18-Dec-23 09:40** **Report/Verified: 18-Dec-23 09:55**

Procedure	Result	Units	Reference Interval
mGluR1 Ab IgG CBA-IFA Titer,CSF	**1:160** * i26		[< 1:1]

Interpretive Text

t1: 18-Dec-23 09:38 (AMPA Receptor Ab IgG CBA-IFA Screen, CSF)
AMPAR Antibody, IgG is detected. Titer results to follow.
t2: 18-Dec-23 09:38 (GABA-BR Ab IgG CBA-IFA Screen, CSF)
GABA-BR Antibody, IgG is detected. Titer results to follow.
t3: 18-Dec-23 09:38 (CASPR2 Ab IgG CBA-IFA Screen, CSF)
CASPR2 Antibody, IgG is detected. Titer results to follow.
t4: 18-Dec-23 09:38 (LGI1 Ab IgG CBA-IFA Screen, CSF)
LGI1 Antibody, IgG is detected. Titer results to follow.
t5: 18-Dec-23 09:38 (CV2 Ab IgG CBA-IFA Screen, CSF)
CV2 Antibody, IgG is detected. Titer results to follow. Additional charges apply.
t6: 18-Dec-23 09:38 (DPPX Ab IgG CBA-IFA Screen, CSF)
DPPX Antibody, IgG is detected. Titer results to follow.
t7: 18-Dec-23 09:38 (GABA-AR Ab IgG CBA-IFA Screen, CSF)
GABA-AR Antibody, IgG is detected. Titer results to follow.
t8: 18-Dec-23 09:38 (mGluR1 Ab IgG CBA-IFA Screen, CSF)
mGluR1 Antibody, IgG is detected. Titer results to follow.

Result Footnote

f1: NMDA Receptor Ab IgG CBA-IFA, CSF

Antibodies to NMDA were detected; titer was performed at an additional charge.

The ExTINGUISH Trial (safety and efficacy of Inebilizumab in anti-NMDA receptor encephalitis,

Result Footnote

f1: NMDA Receptor Ab IgG CBA-IFA, CSF
NCT04372615) is actively recruiting patients. To learn more, or to refer your patient, call 1-844-427-2465, email ExTINGUISH@hsc.utah.edu, or visit https://neuronext.org/projects/nn111-extinguish.
f2: Paraneoplastic Abs (PCCA/ANNA) IgG, CSF

Antibodies detected, therefore IFA titer and Immunoblot testing to be performed.

Test Information

i1: NMDA Receptor Ab IgG CBA-IFA, CSF
INTERPRETIVE INFORMATION: NMDA Receptor Ab IgG CBA-IFA, CSF

NMDA receptor antibody is found in a subset of patients with autoimmune limbic encephalitis and may occur with or without associated tumor. Decreasing antibody levels may be associated with therapeutic response. In addition, positive results have been reported in patients with non-autoimmune phenotypes. A negative test result does not rule out a diagnosis of autoimmune limbic encephalitis. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes full-length GluN1 transfected cell lines for the detection and semiquantification of NMDA receptor IgG antibody.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i2: Paraneoplastic Abs (PCCA/ANNA) IgG, CSF
INTERPRETIVE INFORMATION: Paraneoplastic Abs (PCCA/ANNA) IgG, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i3: AMPA Receptor Ab IgG CBA-IFA Screen, CSF
INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG CBA-IFA Screen, CSF

Alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor (AMPAR) antibody is found in a subset of patients with autoimmune limbic encephalitis and may occur with or without associated tumor. Decreasing antibody levels may be associated with therapeutic response. A negative test result does not rule out a diagnosis of autoimmune encephalitis. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes AMPAR transfected cell lines for detection and semiquantification of AMPAR IgG antibody.

Test Information

i3: AMPA Receptor Ab IgG CBA-IFA Screen, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i4: GABA-BR Ab IgG CBA-IFA Screen, CSF

INTERPRETIVE INFORMATION: GABA-BR Ab IgG CBA-IFA Screen, CSF

Gamma-amino butyric acid receptor, type B (GABA-BR) antibody is found in a subset of patients with autoimmune epilepsy and other autoimmune neurologic phenotypes; it may occur with or without associated tumor. Decreasing antibody levels may be associated with therapeutic response. A negative test result does not rule out a diagnosis of autoimmune neurologic disease. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes GABA-BR transfected cell lines for the detection and semiquantification of GABA-BR IgG antibody.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i5: CASPR2 Ab IgG CBA-IFA Screen, CSF

INTERPRETIVE INFORMATION: CASPR2 Ab IgG CBA-IFA Screen, CSF

Contactin-associated protein-2 (CASPR2) IgG antibody may occur as part of the voltage-gated potassium channel (VGKC) complex antibodies.

The presence of CASPR2 IgG antibody is associated with a wide spectrum of clinical manifestations, including acquired neuromyotonia, limbic encephalitis, painful neuropathy, and Morvan syndrome. Tumors such as thymoma, small cell lung cancer, and other rarer tumors may occur. The full-spectrum of clinical disorders and tumors associated with the CASPR2 IgG antibody continues to be defined. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes CASPR2 transfected cell lines for the detection and semiquantification of the CASPR2 IgG antibody.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i6: LGI1 Ab IgG CBA-IFA Screen, CSF

INTERPRETIVE INFORMATION: LGI1 Ab IgG CBA-IFA Screen, CSF

Test Information

i6: LGI1 Ab IgG CBA-IFA Screen, CSF

Leucine-rich, glioma-inactivated 1 protein (LGI1) IgG antibody may occur as part of the voltage-gated potassium channel (VGKC) complex antibodies.

The presence of LGI1 IgG antibody is mainly associated with limbic encephalitis, hyponatremia, and myoclonic movements. LGI1 IgG antibody is rarely associated with tumors but may occur infrequently in Morvan syndrome, neuromyotonia, and idiopathic epilepsy. The full-spectrum of clinical disorders associated with the LGI1 IgG antibody continues to be defined. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes LGI1 transfected cell lines for the detection and semi-quantification of the LGI1 IgG antibody.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i7: CV2 Ab IgG CBA-IFA Screen, CSF

INTERPRETIVE INFORMATION: CV2 Ab IgG CBA-IFA Screen, CSF

CV2 antibodies aid in discriminating between chronic paraneoplastic neurological disorder (PND) and other inflammatory disorders of the nervous system. Anti-CV2 is associated with small-cell lung cancer and thymoma. A negative test result does not rule out a diagnosis of autoimmune neurologic disease. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes CV2 transfected cell lines for the detection and semiquantification of the CV2 IgG antibody.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.

i8: SOX1 Antibody, IgG by Immunoblot, CSF

INTERPRETIVE INFORMATION: SOX1 Antibody, IgG by Immunoblot, CSF

SOX1 antibody is detected in patients with Lambert-Eaton myasthenic syndrome (LEMS) and in patients with paraneoplastic cerebellar degeneration (PCD), paraneoplastic and nonparaneoplastic neuropathy. SOX1 antibody is associated with small cell lung cancer. A negative test result does not rule out a diagnosis of LEMS or other causes of paraneoplastic neurological syndrome.

Test Information

i8: SOX1 Antibody, IgG by Immunoblot, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.

i9: Amphiphysin Antibody, CSF

INTERPRETIVE INFORMATION: Amphiphysin Antibody IgG, CSF

Amphiphysin antibody is present in about 5 percent of patients with stiff-person syndrome and is found variably in other causes of paraneoplastic neurological syndrome (PNS). Amphiphysin antibody is mainly associated with small-cell lung cancer and breast tumors.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i10: DPPX Ab IgG CBA-IFA Screen, CSF

INTERPRETIVE INFORMATION: DPPX Ab IgG CBA-IFA Screen, CSF

DPPX antibody is found in a subset of patients with autoimmune encephalitis, and is often associated with prodromal gastrointestinal symptoms and unintentional weight loss. It may occur with or without associated tumor. Decreasing antibody levels may be associated with therapeutic response. A negative test result does not rule out a diagnosis of autoimmune neurologic disease. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes DPPX transfected cells for the detection and semiquantification of the DPPX IgG antibody.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.

i11: GABA-AR Ab IgG CBA-IFA Screen, CSF

INTERPRETIVE INFORMATION: GABA-AR Ab IgG CBA-IFA Screen, CSF

Gamma-aminobutyric acid receptor, type A (GABA-AR) antibody is found in a subset of patients with autoimmune encephalitis or autoimmune epilepsy, and may occur with or without associated tumor. A negative test result does not rule out a diagnosis of autoimmune limbic encephalitis or autoimmune epilepsy. Interpretation of any anti-neural antibody test requires clinical correlation.

This indirect fluorescent antibody assay utilizes GABA-AR transfected cell lines for detection and semi-quantification of GABA-AR IgG antibody.

Test Information

i11: GABA-AR Ab IgG CBA-IFA Screen, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.

i12: mGluR1 Ab IgG CBA-IFA Screen, CSF

INTERPRETIVE INFORMATION: mGluR1 Ab IgG CBA-IFA Screen, CSF

Metabotropic glutamate receptor 1 (mGluR1) antibody is found in a subset of patients with autoimmune cerebellar ataxia or autoimmune encephalitis and may occur with or without associated tumor. A negative test result does not rule out a diagnosis of autoimmune cerebellar ataxia or limbic encephalitis. Interpretation of any anti-neural antibody test requires clinical correlation.

This indirect fluorescent antibody assay utilizes mGluR1 transfected cell lines for detection and semi-quantification of mGluR1 IgG antibody.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.

i13: Glutamic Acid Decarboxylase Antibody CSF

INTERPRETIVE INFORMATION: Glutamic Acid Decarboxylase Antibody, CSF

A value greater than 5.0 IU/mL is considered positive for glutamic acid decarboxylase antibody (GAD AB CSF).

This assay is intended for the semi-quantitative determination of the GAD Ab in human CSF. Results should be interpreted within the context of clinical symptoms.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i14: Neuronal Nuclear Ab (Hu) IgG, IB, CSF

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (Hu) IgG, IB, CSF

This test detects IgG antineuronal antibodies to Hu, Ri, and Yo and Tr (DNER) antigens.

Antineuronal antibodies serve as markers that aid in discriminating between a true paraneoplastic neurological disorder (PND) and other inflammatory disorders of the nervous system. Anti-Hu (antineuronal nuclear antibody, type I) is associated with small cell lung cancer. Anti-Ri (antineuronal nuclear antibody, type II) is

Test Information

i14: Neuronal Nuclear Ab (Hu) IgG, IB, CSF

associated with neuroblastoma in children and with fallopian tube and breast cancer in adults. Anti-Yo (anti-Purkinje cell cytoplasmic antibody) is associated with ovarian and breast cancer. Anti-Tr(DNER) is associated with Hodgkin's lymphoma.

The presence of one or more of these antineuronal antibodies supports a clinical diagnosis of PND and should lead to a focused search for the underlying neoplasm.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i15: Neuronal Nuclear Ab (Ri) IgG, IB, CSF

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (Ri) IgG, IB, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i16: Neuronal Nuclear Ab (Yo) IgG, IB, CSF

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (Yo) IgG, IB, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i17: Neuronal Nuclear Ab (TR/DNER) IgG, CSF

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (TR/DNER) IgG, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i18: Neuronal Nuclear Ab Titer, IgG CSF

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab Titer, IgG CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i19: AMPA Receptor Ab IgG CBA-IFA Titer, CSF

INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug

Test Information

i19: AMPA Receptor Ab IgG CBA-IFA Titer, CSF
Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i20: CASPR2 Ab IgG CBA-IFA Titer, CSF
INTERPRETIVE INFORMATION: CASPR2 Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i21: CV2 Ab IgG CBA-IFA Titer, CSF
INTERPRETIVE INFORMATION: CV2 Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i22: DPPX Ab IgG CBA-IFA Titer, CSF
INTERPRETIVE INFORMATION: DPPX Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i23: GABA-AR Ab IgG CBA-IFA Titer, CSF
INTERPRETIVE INFORMATION: GABA-AR Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.

i24: GABA-BR Ab IgG CBA-IFA Titer, CSF
INTERPRETIVE INFORMATION: GABA-BR Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i25: LGI1 Ab IgG CBA-IFA Titer, CSF
INTERPRETIVE INFORMATION: LGI1 Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Test Information

i26: mGluR1 Ab IgG CBA-IFA Titer, CSF

INTERPRETIVE INFORMATION: mGluR1 Ab IgG CBA-IFA Titer, CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.