Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	12/31/1752
Sex:	Unknown
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	01/01/2017 12:34

Autoimmune Movement Disorder Panel, CSF

ARUP test code 3018966

NMDA Receptor Ab IgG CBA-IFA, CSF	< 1:1	(Ref Interval: < 1:1)

Antibodies to NMDA were not detected, no additional testing to follow.

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.

Paraneoplastic Abs (PCCA/ANNA) IgG, CSF	None Detected	(Ref Interval: None Detected)

PCCA Antibodies not detected, ITPR1 Antibody, IgG by CBA-IFA will not be performed.

ANNA-1, ANNA-2, PCCA-1 or PCCA-Tr(DNER) antibodies not detected. No further testing will be performed.

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.

AMPA Receptor Ab IgG CBA-IFA Screen, CSF	< 1:1	(Ref Interval: < 1:1)

H=High, L=Low, *=Abnormal, C=Critical

AMPAR Antibody, IgG is not detected. No further testing will be performed.

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.

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.

GABA-BR Ab IgG CBA-IFA Screen, CSF

< 1:1 (Ref Interval: < 1:1)

GABA-BR Antibody, IgG is not detected. No further testing will be performed.

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.

CASPR2 Ab IgG CBA-IFA Screen, CSF

< 1:1 (Ref Interval: < 1:1)

CASPR2 Antibody, IgG is not detected. No further testing will be performed.

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.
LGI1 Ab IgG CBA-IFA Screen, CSF	< 1:1 (Ref Interval: < 1:1) LGI1 Antibody, IgG is not detected. No further testing will be performed. INTERPRETIVE INFORMATION: 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.
CV2 Ab IgG CBA-IFA Screen, CSF	< 1:1 (Ref Interval: < 1:1) CV2 Antibody, IgG is not detected. No further testing will be performed. 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.
SOX1 Antibody, IgG by Immunoblot, CSF	Negative (Ref Interval: Negative) 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. 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.
Amphiphysin Antibody, CSF	Negative (Ref Interval: Negative) 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.
DPPX Ab IgG CBA-IFA Screen, CSF	< 1:1 (Ref Interval: < 1:1) DPPX Antibody, IgG is not detected. No further testing will be performed. 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.
GABA-AR Ab IgG CBA-IFA Screen, CSF	< 1:1 (Ref Interval: < 1:1)

H=High, L=Low, *=Abnormal, C=Critical

GABA-AR Antibody, IgG is not detected. No further testing will be performed.

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.

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.

IgLON5 Ab IgG CBA-IFA Screen, CSF	< 1:1	(Ref Interval: < 1:1)

IgLON5 Antibody, IgG is not detected. No further testing will be performed.

INTERPRETIVE INFORMATION: IgLON5 Ab IgG CBA-IFA Screen, CSF

IgLON Family Member 5 (IgLON5) antibody is found in a subset of patients with autoimmune encephalitis or other autoimmune neurologic/neurodegenerative disorders and may occur with or without associated tumor. A negative test result does not rule out a diagnosis of an autoimmune neurologic disorder. Interpretation of any anti-neural antibody test requires clinical correlation.

This indirect fluorescent antibody assay utilizes IgLON5 transfected cell lines for detection and semi-quantification of IgLON5 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.

mGluR1 Ab IgG CBA-IFA Screen, CSF	< 1:1	(Ref Interval: < 1:1)

mGluR1 Antibody, IgG is not detected. No further testing will be performed.

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.

H=High, L=Low, *=Abnormal, C=Critical

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.

Ma2/Ta Antibody, IgG by Immunoblot, CSF	Negative	(Ref Interval: Negative)

INTERPRETIVE INFORMATION: Ma2/Ta Antibody, IgG by Immunoblot, CSF
IgG antibodies to Ma2/Ta are associated with paraneoplastic neurologic syndromes with phenotypes most often including a combination of limbic encephalitis, diencephalic encephalitis, and brainstem encephalitis. Patients with anti-Ma2/Ta paraneoplastic neurologic syndromes should be thoroughly evaluated for cancer, including testicular cancer and adenocarcinoma, as neurologic symptoms often precede cancer diagnosis. Use of immune checkpoint inhibitors has also been associated with an increased risk of anti-Ma2 paraneoplastic neurologic disease. Consider sending testing in serum as well as CSF to improve diagnostic yield. Results (positive or negative) should be interpreted in the context of the patient's complete clinical picture, as false positives may occur and a negative result does not exclude the diagnosis of paraneoplastic neurologic disease.

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.

KLHL11 Ab IgG CBA-IFA Screen, CSF	< 1:1	(Ref Interval: < 1:1)

KLHL11 Antibody, IgG is not detected. No further testing will be performed.

INTERPRETIVE INFORMATION: KLHL11 Antibody, IgG by CBA-IFA, CSF
IgG antibodies to KLHL11 are associated with paraneoplastic neurologic syndromes with phenotypes most often including a combination of brainstem and cerebellar encephalitis as well as sensorineural hearing loss. Patients with anti-KLHL11 syndromes should be thoroughly evaluated for cancer, including testicular cancer, as neurologic symptoms often precede cancer diagnosis. Consider sending testing in serum as well as CSF to improve diagnostic yield. Coexisting and clinically relevant antineural antibodies have been reported; consider ordering a phenotype-specific panel to assess for these. Results (positive or negative) should be interpreted in the context of the patient's complete clinical picture, as false positives may occur, and a negative result does not exclude the diagnosis of immune-mediated neurologic disease.

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.

Glutamic Acid Decarboxylase Antibody CSF	5.0 IU/mL	(Ref Interval: 0.0-5.0)

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).

H=High, L=Low, *=Abnormal, C=Critical

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.

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
NMDA Receptor Ab IgG CBA-IFA, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
Paraneoplastic Abs (PCCA/ANNA) IgG, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
AMPA Receptor Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
GABA-BR Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
CASPR2 Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
LGI1 Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
CV2 Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
SOX1 Antibody, IgG by Immunoblot, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
Amphiphysin Antibody, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
DPPX Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
GABA-AR Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
IgLON5 Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
mGluR1 Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
Ma2/Ta Antibody, IgG by Immunoblot, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
KLHL11 Ab IgG CBA-IFA Screen, CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM
Glutamic Acid Decarboxylase Antibody CSF	25-112-101553	4/22/2025 8:45:00 AM	4/22/2025 8:46:12 AM	4/22/2025 10:08:00 AM

END OF CHART

H=High, L=Low, *=Abnormal, C=Critical