ARUP LABORATORIES
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Tracy I. George, MD, Chief Medical Officer

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

Physician: Doctor, Example

Patient: Patient, Example

DOB	5/10/1941
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Autoimmune Encephalitis Extended Panel, Serum

ARUP test code 3001431

N-methyl-D-Aspartate Receptor Ab, Serum	<1:10	(Ref Interval: <1:10)

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

INTERPRETIVE INFORMATION: N-methyl-D-Aspartate Receptor Ab, Serum
Anti-NMDA receptor IgG 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; therefore, clinical correlation must be strongly considered. A negative test result does not rule out a diagnosis of autoimmune limbic encephalitis.

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 Screen by IFA, Serum	<1:10	(Ref Interval: <1:10)

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

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

INTERPRETIVE INFORMATION: CASPR2 Ab IgG w/Reflex to Titer, Serum

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 contactin-associated protein-2 (CASPR2) transfected cell lines for the detection and semi-quantification 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 Screen by IFA, Serum	<1:10	(Ref Interval: <1:10)

LGI1 Antibody, IgG is not detected. No further testing will be performed.

INTERPRETIVE INFORMATION: LGI1 Ab IgG w/Reflex to Titer, Serum

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 leucine-rich, glioma-inactivated 1 protein (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.

Neuromyelitis Optica/AQP4-IgG, Serum	<1:10	(Ref Interval: <1:10)

Aquaporin-4 Receptor Antibody, IgG is not detected. No further testing will be performed.

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

INTERPRETIVE INFORMATION: Neuromyelitis Optica/AQP4-IgG w/Rfx, Ser

Diagnosis of neuromyelitis optica (NMO) requires the presence of longitudinally extensive acute myelitis (lesions extending over 3 or more vertebral segments) and optic neuritis. Approximately 75 percent of patients with NMO express antibodies to the aquaporin-4 (AQP4) receptor. While the absence of AQP4 receptor antibodies does not rule out a diagnosis of NMO, presence of this antibody is diagnostic for NMO.

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 Screen, Serum	<1:10	(Ref Interval: <1:10)

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

INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG Screen, Serum

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; therefore, clinical correlation must be strongly considered. A negative test result does not rule out a diagnosis of autoimmune encephalitis.

This indirect fluorescent antibody assay utilizes AMPAR transfected cell lines for the detection and semi-quantification 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-B Receptor Ab IgG Screen, Serum	<1:10	(Ref Interval: <1:10)

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

INTERPRETIVE INFORMATION: GABA Receptor Ab IgG Screen, Serum

Gamma-amino butyric acid receptor, type B (GABA-BR) 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; therefore, clinical correlation must be strongly considered. A negative test result does not rule out a diagnosis of autoimmune encephalitis.

This indirect fluorescent antibody assay utilizes GABA-BR transfected cell lines for the detection and semi-quantification 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.

MOG Antibody IgG Screen, Serum	<1:10	(Ref Interval: <1:10)

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

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

INTERPRETIVE INFORMATION: MOG Antibody IgG Screen, Serum

Myelin oligodendrocyte glycoprotein (MOG) antibody is found in a subset of patients with neuromyelitis optica spectrum disorders including optic neuritis and transverse myelitis, brainstem encephalitis and acute disseminated encephalomyelitis. Persistence of antibody positivity may be associated with a relapsing course. Decreasing antibody levels may be associated with therapeutic response; therefore, clinical correlation must be strongly considered. A negative test result does not rule out a diagnosis of CNS demyelinating disease or autoimmune encephalitis.

This indirect fluorescent antibody assay utilizes full-length MOG transfected cell lines for the detection and semi-quantification of MOG 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.

DPPX Ab IgG CBA IFA Screen, Serum	<1:10	(Ref Interval: <1:10)

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

INTERPRETIVE INFORMATION: DPPX Ab IgG CBA IFA Screen, Serum

Anti-DPPX IgG antibody is found in a subset of patients with autoimmune encephalitis and may occur with or without associated tumor. Decreasing antibody levels may be associated with therapeutic response; therefore, clinical correlation must be strongly considered. A negative test result does not rule out a diagnosis of autoimmune limbic encephalitis.

This indirect fluorescent antibody cell-based assay (CBA) utilizes dipeptidyl aminopeptidase-like protein 6 (DPPX) transfected cells for the detection 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 US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Voltage-Gated Potassium Channel Ab, Ser	5 pmol/L	(Ref Interval: 0-31)

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

INTERPRETIVE INFORMATION: Voltage-Gated Potassium Channel (VGKC) Antibody, Serum

Negative ..... 31 pmol/L or less
Indeterminate... 32 - 87 pmol/L
Positive ..... 88 pmol/L or greater

Voltage-Gated Potassium Channel (VGKC) antibodies are associated with neuromuscular weakness as found in neuromyotonia (also known as Issacs syndrome) and Morvan syndrome. VGKC antibodies are also associated with paraneoplastic neurological syndromes and limbic encephalitis; however, VGKC antibody-associated limbic encephalitis may be associated with antibodies to leucine-rich, glioma-inactivated 1 protein (LGI1) or contactin-associated protein-2 (CASPR2) instead of potassium channel antigens. A substantial number of VGKC-antibody positive cases are negative for LGI1 and CASPR2 IgG autoantibodies, not all VGKC complex antigens are known. The clinical significance of this test can only be determined in conjunction with the patient's clinical history and related laboratory testing.

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.

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

INTERPRETIVE INFORMATION: Glutamic Acid Decarboxylase Antibody

A value greater than 5.0 IU/mL is considered positive for Glutamic Acid Decarboxylase Antibody (GAD Ab). This assay is intended for the semi-quantitative determination of the GAD Ab in human serum. Results should be interpreted within the context of clinical symptoms.

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

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
N-methyl-D-Aspartate Receptor Ab, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CASPR2 Ab IgG Screen by IFA, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
LGI1 Ab IgG Screen by IFA, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuromyelitis Optica/AQP4-IgG, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
AMPA Receptor Ab IgG Screen, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GABA-B Receptor Ab IgG Screen, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
MOG Antibody IgG Screen, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
DPPX Ab IgG CBA IFA Screen, Serum	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Voltage-Gated Potassium Channel Ab, Ser	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Glutamic Acid Decarboxylase Antibody	21-334-402921	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

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