ARUP LABORATORIES
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Jonathan R. Genzen, MD, PhD, Chief Medical Officer

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

Physician: Doctor, Example

Patient: Patient, Example

DOB	2/1/2002
Gender:	Unknown
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Contactin-Associated Protein-2 Antibody Titer, IgG by CBA-IFA, Serum (Reflex for 2009452 CASPR2 IGG Only - Not Orderable by Clients)

ARUP test code 2009454

CASPR2 Ab IgG CBA-IFA Titer, Serum	1:20	*	(Ref Interval: <1:10)

INTERPRETIVE INFORMATION: CASPR2 Ab IgG CBA-IFA Titer, Serum

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.

Leucine-Rich, Glioma-Inactivated Protein 1 Antibody Titer, IgG by CBA-IFA, Serum (Reflex for 2009456 LGI1 IGG Only - Not Orderable by Clients)

ARUP test code 2009458

LGI1 Ab IgG CBA-IFA Titer, Serum	1:40	*	(Ref Interval: <1:10)

INTERPRETIVE INFORMATION: LGI1 Ab IgG CBA-IFA Titer, Serum

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.

Aquaporin-4 Receptor Antibody Titer, IgG by CBA-IFA, Serum (Reflex for 2013320 AQP4 SER - Not Orderable by Clients)

ARUP test code 2013323

NMO/AQP4 Ab IgG CBA-IFA Titer, Serum	1:40	*	(Ref Interval: <1:10)

INTERPRETIVE INFORMATION: NMO/AQP4 Ab IgG CBA-IFA Titer, Serum

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.

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

Alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic Acid (AMPA) Receptor Antibody Titer, IgG by CBA-IFA, Serum (Reflex of 3001260 AMPA SER - Not orderable by clients)

ARUP test code 3001265

AMPA Receptor Ab IgG CBA-IFA Titer, Ser	1:80	*	(Ref Interval: <1:10)

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

Gamma Aminobutyric Acid Receptor, Type B (GABA-BR) Antibody Titer, IgG by CBA-IFA, Serum (Reflex of 3001270 GABA SER - Not orderable by clients)

ARUP test code 3001275

GABA-BR Ab IgG CBA-IFA Titer, Ser	1:40	*	(Ref Interval: <1:10)

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

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.

Myelin Oligodendrocyte Glycoprotein (MOG) Antibody Titer, IgG by CBA-IFA, Serum (Reflex of 3001277 MOG SER - Not orderable by clients)

ARUP test code 3001280

MOG Ab IgG CBA-IFA Titer, Serum	1:40	*	(Ref Interval: <1:10)

INTERPRETIVE INFORMATION: MOG Ab IgG CBA-IFA Titer, Serum

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.

Dipeptidyl Aminopeptidase-Like Protein 6 (DPPX) Antibody Titer, IgG by CBA-IFA, Serum (Reflex for 3004359 DPPX SER Only - Not Orderable by Clients)

ARUP test code 3004360

DPPX Ab IgG CBA-IFA Titer, Serum	1:80	*	(Ref Interval: <1:10)

INTERPRETIVE INFORMATION: DPPX Ab IgG CBA-IFA Titer, Serum

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.

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Gamma-Aminobutyric Acid Receptor, Type A (GABA-AR) Antibody Titer, IgG by CBA-IFA, Serum (Reflex of GABA-A SER - Not Orderable by Clients)

ARUP test code 3006011

GABA-AR Ab IgG CBA-IFA Titer, Serum	1:40	*	(Ref Interval: <1:10)

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

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.

IgLON Family Member 5 (IgLON5) Antibody Titer, IgG by CBA-IFA, Serum (Reflex for IGLON5 SER Only - Not Orderable by Clients)

ARUP test code 3006021

IgLON5 Ab IgG CBA-IFA Titer, Serum	1:20	*	(Ref Interval: <1:10)

INTERPRETIVE INFORMATION: IgLON5 Ab IgG CBA-IFA Titer, Serum

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.

Metabotropic Glutamate Receptor 1 (mGluR1) Antibody Titer, IgG by CBA-IFA, Serum (Reflex for MGLUR1 SER Only - Not Orderable by Clients)

ARUP test code 3006047

mGluR1 Ab IgG CBA-IFA Titer, Serum	1:320	*	(Ref Interval: <1:10)

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

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.

Autoimmune Encephalitis Extended Panel, Serum

ARUP test code 3006050

NMDA Receptor Ab IgG CBA-IFA, Serum	1:20	*	(Ref Interval: <1:10)

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

Clinical trials for anti-NMDA receptor encephalitis are currently underway (clinicaltrials.gov).

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

INTERPRETIVE INFORMATION: NMDA Receptor Ab IgG CBA-IFA, Serum

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. Serum testing should be paired with CSF testing for improved diagnostic sensitivity.

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.

CASPR2 Ab IgG CBA-IFA Screen, Serum	**Detected**	*	**(Ref Interval: <1:10)**

CASPR2 Antibody, IgG is detected. Titer results to follow.

INTERPRETIVE INFORMATION: CASPR2 Ab IgG CBA-IFA Screen, 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 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, Serum	**Detected**	*	**(Ref Interval: <1:10)**

LGI1 Antibody, IgG is detected. Titer results to follow.

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

INTERPRETIVE INFORMATION: LGI1 Ab IgG CBA-IFA Screen, 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 LGI1 transfected cell lines for the detection and semiquantification 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.

NMO/AQP4 Ab IgG CBA-IFA Screen, Serum	**Detected**	*	**(Ref Interval: <1:10)**

Aquaporin-4 Receptor Antibody, IgG is detected. Titer results to follow.

INTERPRETIVE INFORMATION: NMO/AQP4 Ab IgG CBA-IFA Screen, Serum
Neuromyelitis optic (NMO) commonly presents with optic neuritis or longitudinally extensive transverse myelitis. Approximately 75 percent of patients with NMO have 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 indirect fluorescent antibody assay utilizes AQP4 receptor transfected cell lines for the detection and semiquantification of AQP4 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.

AMPA Receptor Ab IgG CBA-IFA Scrn, Serum	**Detected**	*	**(Ref Interval: <1:10)**

AMPAR Antibody, IgG is detected. Titer results to follow.

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

INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG CBA-IFA Scrn, 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. 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 the 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 Scrn, Ser	**Detected**	*	**(Ref Interval: <1:10)**

GABA-BR Antibody, IgG is detected. Titer results to follow.

INTERPRETIVE INFORMATION: GABA-BR Ab IgG CBA-IFA Scrn, Ser

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.

MOG Ab IgG CBA-IFA Screen, Serum	**Detected**	*	**(Ref Interval: <1:10)**

MOG Antibody, IgG is detected. Titer results to follow.

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

INTERPRETIVE INFORMATION: MOG Ab IgG CBA-IFA 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. A negative test result does not rule out a diagnosis of CNS demyelinating disease. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings.

This indirect fluorescent antibody assay utilizes full-length MOG transfected cell lines for the detection and semiquantification 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	**Detected**	*	**(Ref Interval: <1:10)**

DPPX Antibody, IgG is detected. Titer results to follow.

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

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, Serum	**Detected**	*	**(Ref Interval: <1:10)**

GABA-AR Antibody, IgG is detected. Titer results to follow.

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

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

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 antineural 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, Serum	**Detected**	*	**(Ref Interval: <1:10)**

IgLON5 Antibody, IgG is detected. Titer results to follow.

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

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 antineural 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, Serum	**Detected**	*	**(Ref Interval: <1:10)**

mGluR1 Antibody, IgG is detected. Titer results to follow.

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

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 antineural 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.

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

Voltage-Gated Potassium Channel Ab, Ser	**111 pmol/L H**	**(Ref Interval: 0-31)**

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

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  Negative ....... 31 pmol/L or less
  Indeterminate... 32 - 87 pmol/L
  Positive ....... 88 pmol/L or greater
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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	**11.0 IU/mL H**	**(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
NMDA Receptor Ab IgG CBA-IFA, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CASPR2 Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CASPR2 Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
LGI1 Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
LGI1 Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
NMO/AQP4 Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
NMO/AQP4 Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
AMPA Receptor Ab IgG CBA-IFA Scrn, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
AMPA Receptor Ab IgG CBA-IFA Titer, Ser	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GABA-BR Ab IgG CBA-IFA Scrn, Ser	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GABA-BR Ab IgG CBA-IFA Titer, Ser	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
MOG Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
MOG Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
DPPX Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
DPPX Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GABA-AR Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GABA-AR Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
IgLON5 Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
IgLON5 Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
mGluR1 Ab IgG CBA-IFA Screen, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
mGluR1 Ab IgG CBA-IFA Titer, Serum	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Voltage-Gated Potassium Channel Ab, Ser	23-241-112817	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Glutamic Acid Decarboxylase Antibody	23-241-112817	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