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PATIENT REPORT

Patient Age/Sex: Unknown

Specimen Collected: 13-Jun-23 06:16

Extended Autoimmune Encephalitis Panel | **Received: 13-Jun-23 06:18** | **Report/Verified: 13-Jun-23 06:55**

Procedure	Result	Units	Reference Interval
NMDA Receptor Ab IgG CBA-IFA, Serum	**1:320** * f1 i1		[<1:10]
CASPR2 Ab IgG CBA-IFA Screen, Serum	**Detected** * t1 i2		[<1:10]
LGI1 Ab IgG CBA-IFA Screen,Serum	**Detected** * t2 i3		[<1:10]
NMO/AQP4 Ab IgG CBA-IFA Screen, Serum	**Detected** * t3 i4		[<1:10]
AMPA Receptor Ab IgG CBA-IFA Scrn,Serum	**Detected** * t4 i5		[<1:10]
GABA-BR Ab IgG CBA-IFA Scrn,Ser	**Detected** * t5 i6		[<1:10]
MOG Ab IgG CBA-IFA Screen,Serum	**Detected** * t6 i7		[<1:10]
DPPX Ab IgG CBA-IFA Screen,Serum	**Detected** * t7 i8		[<1:10]
GABA-AR Ab IgG CBA-IFA Screen, Serum	**Detected** * t8 i9		[<1:10]
IgLON5 Ab IgG CBA-IFA Screen, Serum	**Detected** * t9 i10		[<1:10]
mGluR1 Ab IgG CBA-IFA Screen, Serum	**Detected** * t10 i11		[<1:10]
Voltage-Gated Potassium Channel Ab,Ser	**55** H i12	pmol/L	[0-31]
Glutamic Acid Decarboxylase Antibody	**55.0** H i13	IU/mL	[0.0-5.0]

AMPA Rptr Ab IgG Titer by CBA-IFA, Ser | **Received: 13-Jun-23 06:18** | **Report/Verified: 13-Jun-23 06:55**

Procedure	Result	Units	Reference Interval
AMPA Receptor Ab IgG CBA-IFA Titer,Ser	**1:320** * i14		[<1:10]

CASPR2 Ab IgG Titer by CBA-IFA, Ser | **Received: 13-Jun-23 06:18** | **Report/Verified: 13-Jun-23 06:55**

Procedure	Result	Units	Reference Interval
CASPR2 Ab IgG CBA-IFA Titer, Serum	**1:160** * i15		[<1:10]

NMO/AQP4-Ab IgG Titer by CBA-IFA, Ser | **Received: 13-Jun-23 06:18** | **Report/Verified: 13-Jun-23 06:55**

Procedure	Result	Units	Reference Interval
NMO/AQP4 Ab IgG CBA-IFA Titer, Serum	**1:640** * i16		[<1:10]

DPPX Ab IgG Titer by CBA-IFA, Ser | **Received: 13-Jun-23 06:18** | **Report/Verified: 13-Jun-23 06:55**

Procedure	Result	Units	Reference Interval
DPPX Ab IgG CBA-IFA Titer,Serum	**1:160** * i17		[<1:10]

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

GABA-A Receptor IgG CBA-IFA Titer, Serum	**Received: 13-Jun-23 06:18**		**Report/Verified: 13-Jun-23 06:55**
Procedure	**Result**	**Units**	**Reference Interval**
GABA-AR Ab IgG CBA-IFA Titer, Serum	**1:640** * i18		[<1:10]

GABA-B Rptr Ab IgG Titer by CBA-IFA, Ser	**Received: 13-Jun-23 06:18**		**Report/Verified: 13-Jun-23 06:55**
Procedure	**Result**	**Units**	**Reference Interval**
GABA-BR Ab IgG CBA-IFA Titer,Ser	**1:320** * i19		[<1:10]

IgLON5 Ab IgG CBA-IFA Titer, Serum	**Received: 13-Jun-23 06:18**		**Report/Verified: 13-Jun-23 06:55**
Procedure	**Result**	**Units**	**Reference Interval**
IgLON5 Ab IgG CBA-IFA Titer, Serum	**1:160** * i20		[<1:10]

LGL1 Ab IgG Titer by CBA-IFA, Ser	**Received: 13-Jun-23 06:18**		**Report/Verified: 13-Jun-23 06:55**
Procedure	**Result**	**Units**	**Reference Interval**
LGI1 Ab IgG CBA-IFA Titer,Serum	**1:160** * i21		[<1:10]

mGluR1 Ab IgG CBA-IFA Titer, Serum	**Received: 13-Jun-23 06:18**		**Report/Verified: 13-Jun-23 06:55**
Procedure	**Result**	**Units**	**Reference Interval**
mGluR1 Ab IgG CBA-IFA Titer, Serum	**1:160** * i22		[<1:10]

MOG Ab IgG Titer by CBA-IFA, Ser	**Received: 13-Jun-23 06:18**		**Report/Verified: 13-Jun-23 06:55**
Procedure	**Result**	**Units**	**Reference Interval**
MOG Ab IgG CBA-IFA Titer,Serum	**1:40** * i23		[<1:10]

Interpretive Text

t1: 13-Jun-23 06:16 (CASPR2 Ab IgG CBA-IFA Screen, Serum)
CASPR2 Antibody, IgG is detected. Titer results to follow.
t2: 13-Jun-23 06:16 (LGI1 Ab IgG CBA-IFA Screen, Serum)
LGI1 Antibody, IgG is detected. Titer results to follow.
t3: 13-Jun-23 06:16 (NMO/AQP4 Ab IgG CBA-IFA Screen, Serum)
Aquaporin-4 Receptor Antibody, IgG is detected. Titer results to follow.
t4: 13-Jun-23 06:16 (AMPA Receptor Ab IgG CBA-IFA Scrn, Serum)
AMPAR Antibody, IgG is detected. Titer results to follow.
t5: 13-Jun-23 06:16 (GABA-BR Ab IgG CBA-IFA Scrn, Ser)
GABA-BR Antibody, IgG is detected. Titer results to follow.
t6: 13-Jun-23 06:16 (MOG Ab IgG CBA-IFA Screen, Serum)
MOG Antibody, IgG is detected. Titer results to follow.
t7: 13-Jun-23 06:16 (DPPX Ab IgG CBA-IFA Screen, Serum)
DPPX Antibody, IgG is detected. Titer results to follow.
t8: 13-Jun-23 06:16 (GABA-AR Ab IgG CBA-IFA Screen, Serum)
GABA-AR Antibody, IgG is detected. Titer results to follow.
t9: 13-Jun-23 06:16 (IgLON5 Ab IgG CBA-IFA Screen, Serum)
IgLON5 Antibody, IgG is detected. Titer results to follow.
t10: 13-Jun-23 06:16 (mGluR1 Ab IgG CBA-IFA Screen, Serum)
mGluR1 Antibody, IgG is detected. Titer results to follow.

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

Result Footnote

f1: NMDA Receptor Ab IgG CBA-IFA, Serum

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

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

Test Information

i1: NMDA Receptor Ab IgG CBA-IFA, Serum

INTERPRETIVE INFORMATION: N-methyl-D-Aspartate Receptor Ab, 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.

i2: CASPR2 Ab IgG CBA-IFA Screen, Serum

INTERPRETIVE INFORMATION: CASPR2 Ab IgG by IFA, 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.

Test Information

i3: LGI1 Ab IgG CBA-IFA Screen, Serum

INTERPRETIVE INFORMATION: LGI1 Ab IgG Screen by IFA, 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.

i4: NMO/AQP4 Ab IgG CBA-IFA Screen, Serum

INTERPRETIVE INFORMATION: Neuromyelitis Optica/AQP4-IgG, Serum

Neuromyelitis optic (NMO) commonly presents with optic neuritis or longitudinally extensive transverse myelitis. Approximately 75% 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.

i5: AMPA Receptor Ab IgG CBA-IFA Scrn, Serum

INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG Screen, Serum

Alpha-amino-3-hydroxy-5-methyl-4-isoxazoleproprionic 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.

Test Information

i5: AMPA Receptor Ab IgG CBA-IFA Scrn, Serum

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.

i6: GABA-BR Ab IgG CBA-IFA Scrn, Ser

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 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.

i7: MOG Ab IgG CBA-IFA Screen, Serum

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.

Test Information

i8: DPPX Ab IgG CBA-IFA Screen, Serum

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.

i9: GABA-AR Ab IgG CBA-IFA Screen, Serum

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.

i10: IgLON5 Ab IgG CBA-IFA Screen, Serum

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.

Test Information

i10: IgLON5 Ab IgG CBA-IFA Screen, 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.

i11: mGluR1 Ab IgG CBA-IFA Screen, Serum

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.

i12: Voltage-Gated Potassium Channel Ab, Ser

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.

Test Information

i13: Glutamic Acid Decarboxylase Antibody
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.

i14: AMPA Receptor Ab IgG CBA-IFA Titer, Ser
INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG 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.

i15: CASPR2 Ab IgG CBA-IFA Titer, Serum
INTERPRETIVE INFORMATION: CASPR2 Ab Titer IgG by IFA, 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.

i16: NMO/AQP4 Ab IgG CBA-IFA Titer, Serum
INTERPRETIVE INFORMATION: Neuromyelitis Optica/AQP4-IgG 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.

i17: DPPX Ab IgG CBA-IFA Titer, Serum
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.

i18: GABA-AR Ab IgG CBA-IFA Titer, Serum
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.

i19: GABA-BR Ab IgG CBA-IFA Titer, Ser
INTERPRETIVE INFORMATION: GABA-B Receptor Ab IgG Titer,

Test Information

i19: GABA-BR Ab IgG CBA-IFA Titer, Ser
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.

i20: IgLON5 Ab IgG CBA-IFA Titer, Serum
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.

i21: LGI1 Ab IgG CBA-IFA Titer, Serum
INTERPRETIVE INFORMATION: LGI1 Ab Titer IgG by IFA,
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.

i22: mGluR1 Ab IgG CBA-IFA Titer, Serum
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.

i23: MOG Ab IgG CBA-IFA Titer, Serum
INTERPRETIVE INFORMATION: MOG Antibody IgG 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.