ARUP Laboratories

500 Chipeta Way – Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories

Patient Age/Gender: Unknown Unknown Printed: 25-Jun-20 08:06:45

				Reported/
Procedure	Result	Units	Ref Interval	Accession Collected Received Verified
N-methyl-D-Aspartate Receptor Ab, CSF	1:160 *f		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
				11:48:00 11:48:00 12:11:55
Neuromyelitis Optica/AQP4-IgG Titer, CSF	1:160 *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20 11:48:00 11:48:00 12:13:16
Naviranialitis Ontino/AOD4 Inc. GGE	Detected *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
Neuromyelitis Optica/AQP4-IgG, CSF	Detected *		[< 1.1]	11:48:00 11:48:00 12:11:55
AMPA Receptor Ab IgG Screen, CSF	Detected *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
THE I RECEPCE IN 190 DELECTI, COI			[11:48:00 11:48:00 12:11:55
AMPA Receptor Ab IgG Titer, CSF	1:80 *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
	_			11:48:00 11:48:00 12:13:10
GABA-B Receptor Ab IgG Screen, CSF	Detected *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20 11:48:00 11:48:00 12:11:55
GABA-B Receptor Ab IgG Titer, CSF	1:40 *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
GABA-B Receptor AD 19G liter, CSF	1:40 "		[< 1.1]	11:48:00 11:48:00 12:13:24
CASPR2 Ab IgG Screen by IFA, CSF	Detected *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
			-	11:48:00 11:48:00 12:11:55
CASPR2 Ab IgG Titer by IFA, CSF	1:20 *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
T.G. 1 T. G. G. 1 T. T. G. G.			[. 1.1]	11:48:00 11:48:00 12:13:18 20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
LGI1 Ab IgG Screen by IFA, CSF	Detected *		[< 1:1]	11:48:00 11:48:00 12:11:55
LGI1 Ab IgG Titer by IFA, CSF	1:40 *		[< 1:1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
HOTT AD 190 TITCE DY ITA, COT	1.10		[< 1.1]	11:48:00 11:48:00 12:13:25
Voltage-Gated Potassium Channel Ab, CSF	2.5 H	pmol/L	[0.0-1.1]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
,		-		11:48:00 11:48:00 12:11:55
Glutamic Acid Decarboxylase Antibody CSF	60.0 H	IU/mL	[0.0-5.0]	20-169-900116 17-Jun-20 17-Jun-20 17-Jun-20
				11:48:00 11:48:00 12:11:55

- 17-Jun-20 11:48:00 Neuromyelitis Optica/AQP4-IgG, CSF
 Aquaporin-4 Receptor Antibody, IgG is detected. Titer results to follow.
- 17-Jun-20 11:48:00 AMPA Receptor Ab IgG Screen, CSF AMPAR Antibody, IgG is detected. Titer results to follow.
- 17-Jun-20 11:48:00 GABA-B Receptor Ab IgG Screen, CSF GABA-BR Antibody, IgG is detected. Titer results to follow.
- 17-Jun-20 11:48:00 CASPR2 Ab IgG Screen by IFA, CSF CASPR2 Antibody, IgG is detected. Titer results to follow.
- 17-Jun-20 11:48:00 LGI1 Ab IgG Screen by IFA, CSF LGI1 Antibody, IgG is detected. Titer results to follow.
- 17-Jun-20 11:48:00 N-methyl-D-Aspartate Receptor Ab, CSF:

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

17-Jun-20 11:48:00 N-methyl-D-Aspartate Receptor Ab, CSF: INTERPRETIVE INFORMATION: N-methyl-D-Aspartate Receptor Ab, CSF

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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

17-Jun-20 11:48:00 Neuromyelitis Optica/AQP4-IgG, CSF: INTERPRETIVE INFORMATION: Neuromyelitis Optica/AQP4-IgG, CSF Rflx

Diagnosis of neuromyelitis optica (NMO) requires the presence of longitudinally extensive acute myelitis (lesions extending over 3 or more vertebral segments) and optic neuritis.

* Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

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ARUP Laboratories

500 Chipeta Way – Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories Patient Age/Gender: Unknown Unknown Printed: 25-Jun-20 08:06:45

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.

See Compliance Statement B: www.aruplab.com/CS

17-Jun-20 11:48:00 AMPA Receptor Ab IgG Screen, CSF: INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG Screen, CSF

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; 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 AMPA Receptor Ab IgG Titer, CSF: INTERPRETIVE INFORMATION: AMPA Receptor Ab IgG Titer, CSF

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 GABA-B Receptor Ab IgG Screen, CSF: INTERPRETIVE INFORMATION: GABA Receptor Ab IgG Screen, CSF

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 IqG antibody.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 GABA-B Receptor Ab IgG Titer, CSF: INTERPRETIVE INFORMATION: GABA-B Receptor Ab IgG Titer, CSF

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 CASPR2 Ab IgG Screen by IFA, CSF: INTERPRETIVE INFORMATION: CASPR2 Ab IgG w/Reflex to Titer, CSF

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

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ARUP Laboratories

500 Chipeta Way – Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories

Patient Age/Gender: Unknown Unknown Printed: 25-Jun-20 08:06:45

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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 CASPR2 Ab IgG Titer by IFA, CSF: INTERPRETIVE INFORMATION: CASPR2 Ab Titer IgG by IFA, CSF

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 LGI1 Ab IgG Screen by IFA, CSF: INTERPRETIVE INFORMATION: LGI1 Ab IgG w/Reflex to Titer, 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 leucine-rich, glioma-inactivated 1 protein (LGI1) transfected cell lines for the detection and semi-quantification of the LGI1 IgG antibody.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 LGI1 Ab IgG Titer by IFA, CSF: INTERPRETIVE INFORMATION: LGI1 Ab Titer IgG by IFA, CSF

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 Voltage-Gated Potassium Channel Ab, CSF: INTERPRETIVE INFORMATION: Voltage-Gated Potassium Channel (VGKC) Antibody, CSF

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Example Report

ARUP Laboratories 500 Chipeta Way – Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories

Patient Age/Gender: Unknown Unknown Printed: 25-Jun-20 08:06:45

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 contactinassociated 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement D: aruplab.com/CS

17-Jun-20 11:48:00 Glutamic Acid Decarboxylase Antibody CSF: INTERPRETIVE INFORMATION: Glutamic Acid Decarboxylase Antibody, CSF

A value greater than $5.0~{\rm IU/mL}$ 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.

See Compliance Statement B: www.aruplab.com/CS

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