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	7/1/1933
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	01/01/2017 12:34

Motor and Sensory Neuropathy Evaluation with Immunofixation Electrophoresis and Reflex to Titer and Neuronal Immunoblot

ARUP test code 2007967

MAG Antibody, IgM Elisa	11355 TU H	(Ref Interval: 0-999)

INTERPRETIVE INFORMATION: MAG Antibody, IgM ELISA

An elevated IgM antibody concentration greater than 999 TU against myelin-associated glycoprotein (MAG) suggests active demyelination in peripheral neuropathy. A normal concentration (less than 999 TU) generally rules out an anti-MAG antibody-associated peripheral neuropathy.

TU=Titer Units

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

SGPG Antibody, IgM	4.04 IV H	(Ref Interval: 0.00-0.99)

INTERPRETIVE INFORMATION: SGPG Antibody, IgM

The majority of sulfate-3-glucuronyl paragloboside (SGPG) IgM-positive sera will show reactivity against MAG. Patients who are SGPG IgM positive and MAG IgM negative may have multi-focal motor neuropathy with conduction block.

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

Purkinje Cell/Neuronal Nuclear IgG Scrn	None Detected	(Ref Interval: None Detected)

ANNA-1, ANNA-2 or PCA-1 antibodies not detected, confirmatory testing for Hu (ANNA-1), Ri (ANNA-2) or Yo (PCA-1) IgG antibodies will not be performed.

INTERPRETIVE INFORMATION: Purkinje Cell/Neuronal Nuclear IgG Scrn

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

Asialo-GM1 Antibodies, IgG/IgM	10 IV	(Ref Interval: 0-50)

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

GM1 Antibodies, IgG/IgM	**118 IV H**	**(Ref Interval: 0-50)**
GD1a Antibodies, IgG/IgM	32 IV	(Ref Interval: 0-50)
GD1b Antibodies, IgG/IgM	30 IV	(Ref Interval: 0-50)
GQ1b Antibodies, IgG/IgM	7 IV	(Ref Interval: 0-50)

INTERPRETIVE INFORMATION: Ganglioside (Asialo-GM1, GM1, GM2, GD1a, GD1b, and GQ1b) Antibodies, IgG/IgM

29 IV or less: Negative
30-50 IV: Equivocal
51-100 IV: Positive
101 IV or greater: Strong Positive

Ganglioside antibodes are associated with diverse peripheral neuropathies. Elevated antibody levels to ganglioside-monosialic acid (GM1), and the neutral glycolipid, asialo GM1 are associated with motor or sensorimotor neuropathies, particularly multifocal motor neuropathy. Anti-GM1 may occur as IgM (polyclonal or monoclonal) or IgG antibodies. These antibodies may also be found in patients with diverse connective tissue diseases as well as normal individuals. GD1a antibodies are associated with different variants of Guillain-Barre syndrome (GBS) particularly acute motor axonal neuropathy while GD1b antibodies are predominantly found in sensory ataxic neuropathy syndrome. Anti-GQ1b antibodies are seen in more than 80 percent of patients with Miller-Fisher syndrome and may be elevated in GBS patients with ophthalmoplegia. The role of isolated anti-GM2 antibodies is unknown. These tests by themselves are not diagnostic and should be used in conjunction with other clinical parameters to confirm disease.

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

EER Motor Sensory Neuropathy Comp	See Note	

Access ARUP Enhanced Report using the link below:

-Direct access:

Immunoglobulin G	**516 mg/dL L**	**(Ref Interval: 768-1632)**

REFERENCE INTERVAL: Immunoglobulin G

Access complete set of age- and/or gender-specific reference intervals for this test in the ARUP Laboratory Test Directory (aruplab.com).

Immunoglobulin A	**53 mg/dL L**	**(Ref Interval: 68-408)**

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	REFERENCE INTERVAL: Immunoglobulin A Access complete set of age- and/or gender-specific reference intervals for this test in the ARUP Laboratory Test Directory (aruplab.com).	
Immunoglobulin M	**358 mg/dL H**	**(Ref Interval: 35-263)**
	REFERENCE INTERVAL: Immunoglobulin M Access complete set of age- and/or gender-specific reference intervals for this test in the ARUP Laboratory Test Directory (aruplab.com).	
Total Protein, Serum	6.5 g/dL	(Ref Interval: 6.3-8.2)
Albumin	4.17 g/dL	(Ref Interval: 3.75-5.01)
Alpha 1 Globulin	0.34 g/dL	(Ref Interval: 0.19-0.46)
Alpha 2 Globulin	0.73 g/dL	(Ref Interval: 0.48-1.05)
Beta Globulin	0.57 g/dL	(Ref Interval: 0.48-1.10)
Gamma	0.68 g/dL	(Ref Interval: 0.62-1.51)
Immunofixation	IFE Done	
SPEP/IFE Interpretation	See Note Restriction of protein migration in the gamma region. IFE shows a faint band in IgM kappa suggestive of a specific immune response or an early monoclonal protein. Close clinical correlation with IFE follow-up is suggested, if clinically indicated. Decreased IgG and IgA levels.	

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VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
MAG Antibody, IgM Elisa	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/21/2020 7:30:00 AM
SGPG Antibody, IgM	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/21/2020 7:30:00 AM
Purkinje Cell/Neuronal Nuclear IgG Scrn	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 10:38:00 PM
Asialo-GM1 Antibodies, IgG/IgM	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 1:31:00 PM
GM1 Antibodies, IgG/IgM	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 1:31:00 PM
GD1a Antibodies, IgG/IgM	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 1:31:00 PM
GD1b Antibodies, IgG/IgM	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 1:31:00 PM
GQ1b Antibodies, IgG/IgM	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 1:31:00 PM
EER Motor Sensory Neuropathy Comp	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:40:00 PM
Immunoglobulin G	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:30:00 PM
Immunoglobulin A	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:30:00 PM
Immunoglobulin M	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:30:00 PM
Total Protein, Serum	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/17/2020 12:25:00 PM
Albumin	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:40:00 PM
Alpha 1 Globulin	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:40:00 PM
Alpha 2 Globulin	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:40:00 PM
Beta Globulin	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:40:00 PM
Gamma	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:40:00 PM
Immunofixation	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/17/2020 12:25:00 PM
SPEP/IFE Interpretation	20-014-134225	1/14/2020 3:14:00 PM	1/17/2020 2:17:47 AM	1/19/2020 3:40:00 PM

END OF CHART

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