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

Physician: Doctor, Example

Patient: Patient, Example

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

Neuronal Nuclear Antibody (ANNA) IFA Titer, IgG (Do Not Use - Please Order (2007961) Paraneoplastic Antibodies (PCCA/ANNA) by IFA with Reflex to Titer and Immunoblot)

ARUP test code 0050892

Neuronal Nuclear Ab (ANNA) IFA Titer IgG	1:160	*	(Ref Interval: <1:10)

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (ANNA) IFA Titer IgG

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.

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

ARUP test code 2007966

MAG Antibody, IgM Elisa	1500 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

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SGPG Antibody, IgM	>5.00 IV	H	(Ref Interval: 0.00-0.99)

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

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.

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

Antibodies detected, therefore IFA titer and Immunoblot testing to be performed.

INTERPRETIVE INFORMATION: Purkinje Cell/Neuronal Nuclear IgG Scrn

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Asialo-GM1 Antibodies, IgG/IgM	**75 IV H**	**(Ref Interval: 0-50)**
GM1 Antibodies, IgG/IgM	**112 IV H**	**(Ref Interval: 0-50)**
GD1a Antibodies, IgG/IgM	**150 IV H**	**(Ref Interval: 0-50)**
GD1b Antibodies, IgG/IgM	**350 IV H**	**(Ref Interval: 0-50)**
GQ1b Antibodies, IgG/IgM	**300 IV H**	**(Ref Interval: 0-50)**

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

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 antibodies 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.

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Neuronal Nuclear Antibodies (Hu, Ri, Yo, Tr/DNER) IgG by Immunoblot, Serum

ARUP test code 3002917

Neuronal Nuclear Ab (Hu) IgG, IB, Serum	**Positive**	*	**(Ref Interval: Negative)**

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab IgG, Immunoblot, Ser
This test detects IgG antineuronal antibodies to Hu, Ri, Yo and Tr (DNER) antigens.

Antineuronal antibodies serve as markers that aid in discriminating between a true paraneoplastic neurological disorder (PND) and other inflammatory disorders of the nervous system. Anti-Hu (antineuronal nuclear antibody, type I) is associated with small-cell lung cancer. Anti-Ri (antineuronal nuclear antibody, type II) is associated with neuroblastoma in children and with fallopian tube and breast cancer in adults. Anti-Yo (anti-Purkinje cell cytoplasmic antibody) is associated with ovarian and breast cancer. Anti-Tr(DNER) is associated with Hodgkin's lymphoma.

The presence of one or more of these antineuronal antibodies supports a clinical diagnosis of PND and should lead to a focused search for the underlying neoplasm.

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Neuronal Nuclear Ab (Ri) IgG, IB, Serum	**Positive**	*	**(Ref Interval: Negative)**

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

	INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (Ri) IgG, IB, 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.
Neuronal Nuclear Ab (Yo) IgG, IB, Serum	**High Positive** * **(Ref Interval: Negative)** INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (Yo) IgG, IB, 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.
Neuronal Nuclear Ab (TR/DNER) IgG, IB	**High Positive** * **(Ref Interval: Negative)** INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (TR/DNER) IgG, IB 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

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
MAG Antibody, IgM Elisa	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SGPG Antibody, IgM	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Purkinje Cell/Neuronal Nuclear IgG Scrn	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (ANNA) IFA Titer IgG	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Asialo-GM1 Antibodies, IgG/IgM	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GM1 Antibodies, IgG/IgM	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GD1a Antibodies, IgG/IgM	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GD1b Antibodies, IgG/IgM	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GQ1b Antibodies, IgG/IgM	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (Hu) IgG, IB, Serum	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (Ri) IgG, IB, Serum	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (Yo) IgG, IB, Serum	24-086-100617	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (TR/DNER) IgG, IB	24-086-100617	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