

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

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

SGPG Antibody, IgM **25.00 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 Screen **ANNA Detected** * (Ref Interval: None Detected)
 Antibodies detected, therefore IFA titer and Immunoblot testing to be performed.

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

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 **150 IV H** (Ref Interval: 0-50)

GM1 Antibodies, IgG/IgM **165 IV H** (Ref Interval: 0-50)

GD1a Antibodies, IgG/IgM **350 IV H** (Ref Interval: 0-50)

GD1b Antibodies, IgG/IgM **300 IV H** (Ref Interval: 0-50)

GQ1b Antibodies, IgG/IgM **125 IV H** (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 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.

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

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)

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

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 Hodgkins 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.

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

Neuronal Nuclear Ab (Ri) IgG, IB, Serum

Positive * (Ref Interval: **Negative**)

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (Ri) IgG, IB, Serum

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

Neuronal Nuclear Ab (Yo) IgG, IB, Serum

Positive * (Ref Interval: **Negative**)

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (Yo) IgG, IB, Serum

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

Neuronal Nuclear Ab (TR/DNER) IgG, IB

Positive * (Ref Interval: **Negative**)

INTERPRETIVE INFORMATION: Neuronal Nuclear Ab (TR/DNER) IgG, IB

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

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

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
MAG Antibody, IgM Elisa	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SGPG Antibody, IgM	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Purkinje Cell/Neuronal Nuclear IgG Sern	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (ANNA) IFA Titer IgG	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Asialo-GM1 Antibodies, IgG/IgM	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GM1 Antibodies, IgG/IgM	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GD1a Antibodies, IgG/IgM	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GD1b Antibodies, IgG/IgM	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
GQ1b Antibodies, IgG/IgM	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (Hu) IgG, IB, Serum	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (Ri) IgG, IB, Serum	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (Yo) IgG, IB, Serum	20-288-101204	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Neuronal Nuclear Ab (TR/DNER) IgG, IB	20-288-101204	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

Unless otherwise indicated, testing performed at:

ARUP LABORATORIES | 800-522-2787 | aruplab.com
500 Chipeta Way, Salt Lake City, UT 84108-1221
Tracy I. George, MD, Laboratory Director

Patient: Patient, Example
ARUP Accession: 20-288-101204
Patient Identifiers: 01234567890ABCD, 012345
Visit Number (FIN): 01234567890ABCD
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