ARUP LABORATORIES
800-522-2787 | aruplab.com
500 Chipeta Way, Salt Lake City, UT 84108-1221
Jonathan R. Genzen, MD, PhD, Chief Medical Officer

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

Physician: Doctor, Example

Patient: Patient, Example

DOB	7/10/1952
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Autoimmune Neuromuscular Junction Reflexive Panel

ARUP test code 3003017

Striated Muscle Antibodies, IgG Screen	<1:40	(Ref Interval: <1:40)

Striated Muscle Antibodies, IgG are not detected. No further testing will be performed.

INTERPRETIVE DATA: Striated Muscle Antibodies, IgG Screen

In the presence of acetylcholine receptor (AChR) antibody, striated muscle antibodies, which bind in a cross-striational pattern to skeletal and heart muscle tissue sections, are associated with late-onset myasthenia gravis (MG). Striated muscle antibodies recognize epitopes on three major muscle proteins, including: titin, ryanodine receptor (RyR) and Kv1.4 (an alpha subunit of voltage-gated potassium channel [VGKC]). Isolated cases of striated muscle antibodies may be seen in patients with certain autoimmune diseases, rheumatic fever, myocardial infarction, and following some cardiotomy procedures.

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.

Acetylcholine Binding Antibody	0.0 nmol/L	(Ref Interval: 0.0-0.4)

Acetylcholine receptor binding antibody result is negative. Sample will not reflex to modulating antibody testing unless blocking result is 27 percent or greater.

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

INTERPRETIVE INFORMATION: Acetylcholine Binding Ab

Negative ..... 0.0 - 0.4 nmol/L
Positive ..... 0.5 nmol/L or greater

Approximately 85-90 percent of patients with myasthenia gravis (MG) express antibodies to the acetylcholine receptor (AChR), which can be divided into binding, blocking, and modulating antibodies. Binding antibody can activate complement and lead to loss of AChR. Blocking antibody may impair binding of acetylcholine to the receptor, leading to poor muscle contraction. Modulating antibody causes receptor endocytosis resulting in loss of AChR expression, which correlates most closely with clinical severity of disease. Approximately 10-15 percent of individuals with confirmed myasthenia gravis have no measurable binding, blocking, or modulating antibodies.

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.

Acetylcholine Blocking Antibody	1 %	(Ref Interval: 0-26)

INTERPRETIVE INFORMATION: Acetylcholine Blocking Ab

Negative ..... 0-26 percent blocking
Indeterminate ..... 27-41 percent blocking
Positive ..... 42 percent or greater blocking

Approximately 85-90 percent of patients with myasthenia gravis (MG) express antibodies to the acetylcholine receptor (AChR), which can be divided into binding, blocking, and modulating antibodies. Binding antibody can activate complement and lead to loss of AChR. Blocking antibody may impair binding of acetylcholine to the receptor, leading to poor muscle contraction. Modulating antibody causes receptor endocytosis resulting in loss of AChR expression, which correlates most closely with clinical severity of disease. Approximately 10-15 percent of individuals with confirmed myasthenia gravis have no measurable binding, blocking, or modulating antibodies.

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.

P/Q-Type Calcium Channel Antibody	0.0 pmol/L	(Ref Interval: 0.0-24.5)

INTERPRETIVE INFORMATION: P/Q-Type Calcium Channel Antibody

0.0 to 24.5 pmol/L ..... Negative
24.6 to 45.6 pmol/L ..... Indeterminate
45.7 pmol/L or greater..... Positive

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.

Voltage-Gated Potassium Channel Ab, Ser	6 pmol/L	(Ref Interval: 0-31)

Repeated and Verified

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

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.

Titin Antibody

<0.09 IV (Ref Interval: 0.00-0.45)

INTERPRETIVE INFORMATION: Titin Antibody

Negative ..... 0.00 - 0.45 IV
Indeterminate ... 0.46 - 0.71 IV
Positive ..... 0.72 IV or greater

The presence of titin antibody is associated with late onset of myasthenia gravis (MG) and a variable risk for thymoma. Titin antibody may be detected in 20-40 percent of all patients with MG; higher frequency in older population as a whole.

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.

N-Type Calcium Channel Antibody

0.0 pmol/L (Ref Interval: 0.0-69.9)

INTERPRETIVE INFORMATION: N-Type Calcium Channel Antibody

0.0 to 69.9 pmol/L .....Negative
70.0 to 110.0 pmol/L .....Indeterminate
110.1 pmol/L or greater.....Positive

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.

Ganglionic Acetylcholine Receptor Ab

9.5 pmol/L H **(Ref Interval: 0.0-8.4)**

Repeated and verified.

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

REFERENCE INTERVAL: Ganglionic Acetylcholine Receptor Ab

Negative . . . . . 0.0-8.4 pmol/L
Indeterminate. . . . . 8.5-11.6 pmol/L
Positive . . . . . 11.7 pmol/L or greater

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.

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Striated Muscle Antibodies, IgG Screen	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Acetylcholine Binding Antibody	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Acetylcholine Blocking Antibody	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
P/Q-Type Calcium Channel Antibody	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Voltage-Gated Potassium Channel Ab, Ser	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Titin Antibody	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
N-Type Calcium Channel Antibody	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Ganglionic Acetylcholine Receptor Ab	23-115-123692	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART