

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

**Extended Myositis Panel**

ARUP test code 3018867

SSA-52 (Ro52) (ENA) Antibody, IgG

**65 AU/mL H (Ref Interval: 0-40)**

INTERPRETIVE INFORMATION: SSA-52 (Ro52) (ENA) Antibody, IgG

29 AU/mL or Less ..... Negative  
30 - 40 AU/mL ..... Equivocal  
41 AU/mL or Greater ..... Positive

SSA-52 (Ro52) and/or SSA-60 (Ro60) antibodies are associated with a diagnosis of Sjogren syndrome, systemic lupus erythematosus (SLE), and systemic sclerosis. SSA-52 antibody overlaps significantly with the major SSC-related antibodies. SSA-52 (Ro52) antibody occurs frequently in patients with inflammatory myopathies, often in the presence of interstitial lung disease.

SSA-60 (Ro60) (ENA) Antibody, IgG

**65 AU/mL H (Ref Interval: 0-40)**

REFERENCE INTERVAL: SSA-60 (Ro60) (ENA) Antibody, IgG

29 AU/mL or Less ..... Negative  
30 - 40 AU/mL ..... Equivocal  
41 AU/mL or Greater ..... Positive

Smith/RNP (ENA) Ab, IgG

**65 Units H (Ref Interval: 0-19)**

INTERPRETIVE INFORMATION: Smith/RNP (ENA) Antibody, IgG

19 Units or Less ..... Negative  
20 to 39 Units ..... Weak Positive  
40 to 80 Units ..... Moderate Positive  
81 Units or greater ..... Strong Positive

Smith/RNP antibodies are frequently seen in patients with mixed connective tissue disease (MCTD) and are also associated with other systemic autoimmune rheumatic diseases (SARDs) such as systemic lupus erythematosus (SLE), systemic sclerosis, and myositis. Antibodies targeting the Smith/RNP antigenic complex also recognize Smith antigens, therefore, the Smith antibody response must be considered when interpreting these results.

Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG

**60 AU/mL H (Ref Interval: 0-40)**

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

*Unless otherwise indicated, testing performed at:*

INTERPRETIVE INFORMATION: Jo-1 Antibody, IgG

29 AU/mL or less.....Negative  
30-40 AU/mL.....Equivocal  
41 AU/mL or greater.....Positive

Presence of Jo-1 (antihistidyl transfer RNA [t-RNA] synthetase) antibody is associated with polymyositis and may also be seen in patients with dermatomyositis. Jo-1 antibody is associated with pulmonary involvement (interstitial lung disease), Raynaud phenomenon, arthritis, and mechanic's hands (implicated in antisynthetase syndrome).

PL-12 (alanyl-tRNA synthetase) Antibody **Weak Positive** \* (Ref Interval: Negative)

PL-7 (threonyl-tRNA synthetase) Antibody **Positive** \* (Ref Interval: Negative)

EJ (glycyl-tRNA synthetase) Antibody **Positive** \* (Ref Interval: Negative)

OJ (isoleucyl-tRNA synthetase) Antibody **Positive** \* (Ref Interval: Negative)

SRP (Signal Recognition Particle) Ab **Positive** \* (Ref Interval: Negative)

Ku Antibody **Positive** \* (Ref Interval: Negative)

PM/Scl 100 Antibody, IgG **Positive** \* (Ref Interval: Negative)

INTERPRETIVE INFORMATION: PM/Scl-100 Antibody, IgG by Immunoblot

The presence of PM/Scl-100 IgG antibody along with a positive ANA IFA nucleolar pattern is associated with connective tissue diseases such as polymyositis (PM), dermatomyositis (DM), systemic sclerosis (SSc), and polymyositis/systemic sclerosis overlap syndrome. The clinical relevance of PM/Scl-100 IgG antibody with a negative ANA IFA nucleolar pattern is unknown. PM/Scl-100 is the main target epitope of the PM/Scl complex, although antibodies to other targets not detected by this assay may occur.

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.

Fibrillarin (U3 RNP) Ab, IgG **High Positive** \* (Ref Interval: Negative)

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

Unless otherwise indicated, testing performed at:

**Interpretive Information: Fibrillarin (U3 RNP) Antibody, IgG**

The presence of fibrillarin (U3-RNP) IgG antibodies in association with an ANA IFA nucleolar pattern is suggestive of systemic sclerosis (SSc). In SSc, these antibodies are associated with distinct clinical features, such as younger age at disease onset, frequent internal organ involvement (pulmonary hypertension, myositis and renal disease). Fibrillarin antibodies are detected more frequently in African American patients with SSc compared to other ethnic groups. Strong correlation with ANA IFA results is recommended.

In a multi-ethnic cohort of SSc patients (n=98), U3-RNP antibodies detected by immunoblot had an agreement of 98.9 percent with the gold standard immunoprecipitation (IP) assay. Approximately 71 percent (5/7) of the borderline U3-RNP results with ANA nucleolar pattern in this cohort were IP negative.

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Mi-2 (nuclear helicase protein) Antibody	<b>Positive</b>	*	(Ref Interval: Negative)
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P155/140 Antibody	<b>Positive</b>	*	(Ref Interval: Negative)
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TIF-1 gamma (155 kDa) Ab	<b>Positive</b>	*	(Ref Interval: Negative)
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SAE1 (SUMO activating enzyme) Ab	<b>Positive</b>	*	(Ref Interval: Negative)
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MDA5 (CADM-140) Ab	<b>High Positive</b>	*	(Ref Interval: Negative)
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NXP2 (Nuclear matrix protein-2) Ab	<b>Low Positive</b>	*	(Ref Interval: Negative)
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Low positive reactivity to nuclear matrix protein (NXP2) detected. Strong clinical correlation is recommended.

Myositis Panel Interpretive Data	See Note
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INTERPRETIVE INFORMATION: Extended Myositis Panel 2

If present, myositis-specific antibodies (MSAs) are specific for myositis, and may be useful in establishing diagnosis as well as prognosis. MSAs are generally regarded as mutually exclusive with rare exceptions; the occurrence of two or more MSAs should be carefully evaluated in the context of patient's clinical presentation. Myositis-associated antibodies (MAAs) may be found in patients with CTD including overlap syndromes, and are generally not specific for myositis. The following table will help in identifying the association of any antibodies found as either MSAs or MAAs.

Antibody Specificity . . . . .	MSAs . . . . .	MAAs
SSA 52 (Ro) (ENA) Antibody IgG . . . . .	X	
SSA 60 (Ro) (ENA) Antibody IgG . . . . .	X	
Smith/RNP (ENA) Ab, IgG . . . . .	X	
Jo-1 (histidyl-tRNA synthetase) Ab, IgG . . . . .	X	
PL-12 (alanyl-tRNA synthetase) Antibody . . . . .	X	
PL-7 (threonyl-tRNA synthetase) Antibody . . . . .	X	
EJ (glycyl-tRNA synthetase) Antibody . . . . .	X	
OJ (isoleucyl-tRNA synthetase) Antibody . . . . .	X	
SRP (Signal Recognition Particle) Ab . . . . .	X	
Ku Antibody . . . . .		X
PM/SCL 100 Antibody, IgG . . . . .		X
Fibrillarin (U3 RNP) Ab, IgG . . . . .		X
Mi-2 (nuclear helicase protein) Antibody . . . . .	X	
P155/140 Antibody . . . . .	X	
TIF-1 gamma (155 kDa) Ab . . . . .	X	
SAE1 (SUMO activating enzyme) Ab . . . . .	X	
MDA5 (CADM-140) Ab . . . . .	X	
NXP2 (Nuclear matrix proten-2)Ab . . . . .	X	
Ha (tyrosyl-tRNA synthetase) Ab . . . . .	X	
Ks (asparaginyI-tRNA synthetase) Ab . . . . .	X	
Zo (phenylalanyl-tRNA synthetase) Ab . . . . .	X	

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Antinuclear Antibody (ANA), HEp-2, IgG

**Detected** \* (Ref Interval: <1:80)

ANA Interpretive Comment

See Note

**Nuclear Dots Pattern**  
Clinical associations: PBC, DM, SjS, SLE, SSC, PM  
Main autoantibodies: Anti-NXP-2, anti-Sp100

**Rods and Rings pattern**  
Clinical Associations: commonly found in HCV patients who have been treated with pegylated interferon-alpha/ribavirin combination therapy.  
Main autoantibodies: IMPDH2 (no available tests)

**List of Abbreviations**  
Antisynthetase syndrome (ARS), chronic active hepatitis (CAH), inflammatory myopathies (IM) [dermatomyositis (DM), polymyositis (PM), necrotizing autoimmune myopathy (NAM)], interstitial lung disease (ILD), juvenile idiopathic arthritis (JIA), mixed connective tissue disease (MCTD), primary biliary cholangitis (PBC), rheumatoid arthritis (RA), systemic autoimmune rheumatic diseases (SARD), Sjogren syndrome (SjS), systemic lupus erythematosus (SLE), systemic sclerosis (SSc), undifferentiated connective tissue disease (UCTD).

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INTERPRETIVE INFORMATION: ANA Interpretive Comment

Presence of antinuclear antibodies (ANA) is a hallmark feature of systemic autoimmune rheumatic diseases (SARD). However, ANA lacks diagnostic specificity and is associated with a variety of diseases (cancers, autoimmune, infectious, and inflammatory conditions) and may also occur in healthy individuals in varying prevalence. The lack of diagnostic specificity requires confirmation of positive ANA by more specific serologic tests. ANA (nuclear reactivity) positive patterns reported include centromere, homogeneous, nuclear dots, nucleolar, or speckled. ANA (cytoplasmic reactivity) positive patterns reported include reticular/AMA, discrete/GW body-like, polar/golgi-like, cytoplasmic speckled or rods and rings. All positive patterns are reported to endpoint titers (1:2560). Reported patterns may help guide differential diagnosis, although they may not be specific for individual antibodies or diseases. Mitotic staining patterns not reported. Negative results do not necessarily rule out SARD.

Ha (tyrosyl-tRNA synthetase) Ab

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

Ha positive by line immunoassay. Band corresponding to 65 kDa observed by immunoprecipitation. Profile consistent with Ha antibody positivity.

Ks (asparaginyl-tRNA synthetase) Ab

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

Ks positive by line immunoassay. Band corresponding to 65 kDa observed by immunoprecipitation. Profile consistent with Ks antibody positivity.

Zo (phenylalanyl-tRNA synthetase) Ab

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

Zo positive by line immunoassay. Bands corresponding to 68 and 58 kDa observed by immunoprecipitation. Profile consistent with Zo antibody positivity.

**Antinuclear Antibody (ANA) with HEP-2 Substrate, IgG by IFA, Single Pattern (Reflex for 3000082 ANA IFA AB Only Not Orderable by Clients)**

ARUP test code 3000083

ANA Pattern

**Nuclear Dot \***

ANA Titer

**1:320 \***

**Antinuclear Antibody (ANA) with HEP-2 Substrate, IgG by IFA, Cytoplasmic Pattern (Reflex for 3000082 ANA IFA AB Only Not Orderable by Clients)**

ARUP test code 3000478

Cytoplasmic Titer

**1:320 \***

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Unless otherwise indicated, testing performed at:

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

Patient: Patient, Example  
ARUP Accession: 25-022-102302  
Patient Identifiers: 01234567890ABCD, 012345  
Visit Number (FIN): 01234567890ABCD  
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Cytoplasm Pattern

**Rods and Rings**

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VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
SSA-52 (Ro52) (ENA) Antibody, IgG	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SSA-60 (Ro60) (ENA) Antibody, IgG	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Smith/RNP (ENA) Ab, IgG	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
PL-12 (alanyl-tRNA synthetase) Antibody	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
PL-7 (threonyl-tRNA synthetase) Antibody	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
EJ (glycyl-tRNA synthetase) Antibody	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
OJ (isoleucyl-tRNA synthetase) Antibody	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SRP (Signal Recognition Particle) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Ku Antibody	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
PM/Scl 100 Antibody, IgG	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Fibrillarin (U3 RNP) Ab, IgG	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Mi-2 (nuclear helicase protein) Antibody	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
P155/140 Antibody	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
TIF-1 gamma (155 kDa) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SAE1 (SUMO activating enzyme) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
MDA5 (CADM-140) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
NXP2 (Nuclear matrix protein-2) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Myositis Panel Interpretive Data	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Antinuclear Antibody (ANA), HEp-2, IgG	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Pattern	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Titer	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cytoplasmic Titer	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Interpretive Comment	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cytoplasm Pattern	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Ha (tyrosyl-tRNA synthetase) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Ks (asparaginy-tRNA synthetase) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Zo (phenylalanyl-tRNA synthetase) Ab	25-022-102302	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

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