

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

Interstitial Lung Disease Autoantibody Panel

ARUP test code 3018869

Rheumatoid Factor **55 IU/mL H (Ref Interval: 0-14)**

SSA-52 (Ro52) (ENA) Antibody, IgG **62 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

Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG **65 AU/mL H (Ref Interval: 0-40)**

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

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

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

Unless otherwise indicated, testing performed at:

EJ (glycyl-tRNA synthetase) Antibody	Weak 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)
<p>INTERPRETIVE INFORMATION: PM/Scl-100 Antibody, IgG by Immunoblot</p> <p>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.</p> <p>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>			
MDA5 (CADM-140) Ab	Positive	*	(Ref Interval: Negative)
NXP2 (Nuclear matrix protein-2) Ab	High Positive	*	(Ref Interval: Negative)
Interpretive Information	See Note		

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

**INTERPRETIVE INFORMATION: Interstitial Lung Disease
Autoantibody 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 (asparaginyl-tRNA synthetase) Ab	X	
Zo (phenylalanyl-tRNA synthetase) Ab	X	

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Scleroderma (Scl-70) (ENA) Antibody, IgG

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

INTERPRETIVE INFORMATION: Scleroderma (Scl-70) (ENA) Ab, IgG

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

The presence of Scl-70 antibodies (also referred to as topoisomerase I, topo-I or ATA) is considered diagnostic for systemic sclerosis (SSc). Scl-70 antibodies alone are detected in about 20 percent of SSc patients and are associated with the diffuse form of the disease, which may include specific organ involvement and poor prognosis. Scl-70 antibodies have also been reported in a varying percentage of patients with systemic lupus erythematosus (SLE). Scl-70 (topo-1) is a DNA binding protein and anti-DNA/DNA complexes in the sera of SLE patients may bind to topo-I, leading to a false-positive result. The presence of Scl-70 antibody in sera may also be due to contamination of recombinant Scl-70 with DNA derived from cellular material used in immunoassays. Strong clinical correlation is recommended if both Scl-70 and dsDNA antibodies are detected.

Negative results do not necessarily rule out the presence of SSc. If clinical suspicion remains, consider further testing for centromere, RNA polymerase III and U3-RNP, PM/Scl, or Th/To antibodies.

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

RNA Polymerase III Antibody, IgG

60 Units H (Ref Interval: 0-19)

INTERPRETIVE INFORMATION: RNA Polymerase III Antibody, IgG

19 Units or lessNegative
20 - 39 UnitsWeak Positive
40 - 80 UnitsModerate Positive
81 Units or greater ...Strong Positive

The presence of RNA polymerase III IgG antibody, when considered in conjunction with other laboratory and clinical findings, is an aid in the diagnosis of systemic sclerosis (SSc) with increased incidence of skin involvement and renal crisis with the diffuse cutaneous form of SSc. RNA polymerase III IgG antibody occur in about 11-23 percent of SSc patients, and typically in the absence of anti-centromere and anti-Scl-70 antibodies.

A negative result indicates no detectable IgG antibodies to the dominant antigen of RNA polymerase III and does not rule out the possibility of SSc. False-positive results may also occur due to non-specific binding of immune complexes. Strong clinical correlation is recommended.

If clinical suspicion remains, consider additional testing for other antibodies associated with SSc, including centromere, Scl-70, U3-RNP, PM/Scl, or Th/To.

Antinuclear Antibody (ANA), HEp-2, IgG

Detected * (Ref Interval: <1:80)

ANA Interpretive Comment

See Note

Nucleolar Pattern

Clinical associations: SSc, SSc/PM overlap, Sjs
Main autoantibodies: Anti-PM/Scl, anti-RNA polymerase, anti-URNP, anti-U3-RNP (anti-fibrillarin), anti-Th/To, NOR-90

Homogeneous Pattern

Clinical associations: SLE, drug-induced SLE or JIA.
Main autoantibodies: Anti-dsDNA, anti-histones or anti-chromatin (anti-nucleosome)

Polar/Golgi-like pattern

Clinical Associations: Variety of conditions, including Sjs, SLE, RA, MCTD, GPA, idiopathic cerebellar ataxia, paraneoplastic cerebellar degeneration, adult Still disease, and viral infections, including HIV and EBV.
Main autoantibodies: 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.

Cyclic Citrullinated Peptide Ab, IgG/A

60 Units H (Ref Interval: 0-19)

INTERPRETIVE INFORMATION: Cyclic Citrullinated Peptide Ab, IgG/A

19 Units or less Negative
20-39 Units Weak Positive
40-59 Units Moderate Positive
60 Units or greater Strong Positive

A positive result for cyclic citrullinated peptide (CCP) antibodies in conjunction with consistent clinical features may be suggestive of rheumatoid arthritis (RA). Anti-CCP, IgG/IgA antibodies are present in about 66-74 percent of RA patients and have specificities of 96-99 percent. Detection of IgA antibodies in addition to the usual IgG antibodies enhances the sensitivity due to some RA patients having IgA antibodies to CCP in the absence of IgG. These autoantibodies may be present in the preclinical phase of disease, are associated with future RA development, and may predict radiographic joint destruction. Patients with weak positive results should be monitored and testing repeated.

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.

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

ARUP test code 3000084

ANA Pattern	Nuclear	*
ANA Titer	1:1280	*
ANA Pattern 2	Homogeneous	*
ANA Titer 2	1:640	*

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	1:160	*
Cytoplasm Pattern	Golgi-like	*

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Unless otherwise indicated, testing performed at:

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Rheumatoid Factor	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SSA-52 (Ro52) (ENA) Antibody, IgG	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SSA-60 (Ro60) (ENA) Antibody, IgG	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
PL-12 (alanyl-tRNA synthetase) Antibody	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
PL-7 (threonyl-tRNA synthetase) Antibody	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
EJ (glycyl-tRNA synthetase) Antibody	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
OJ (isoleucyl-tRNA synthetase) Antibody	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SRP (Signal Recognition Particle) Ab	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Ku Antibody	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
PM/Scl 100 Antibody, IgG	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
MDA5 (CADM-140) Ab	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
NXP2 (Nuclear matrix protein-2) Ab	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Interpretive Information	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Scleroderma (Scl-70) (ENA) Antibody, IgG	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
RNA Polymerase III Antibody, IgG	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Antinuclear Antibody (ANA), HEp-2, IgG	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Pattern	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Titer	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Pattern 2	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Titer 2	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cytoplasmic Titer	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Interpretive Comment	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cytoplasm Pattern	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cyclic Citrullinated Peptide Ab, IgG/A	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Ha (tyrosyl-tRNA synthetase) Ab	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Ks (asparaginyl-tRNA synthetase) Ab	25-022-102242	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Zo (phenylalanyl-tRNA synthetase) Ab	25-022-102242	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
Jonathan R. Genzen, MD, PhD, Laboratory Director

Patient: Patient, Example
ARUP Accession: 25-022-102242
Patient Identifiers: 01234567890ABCD, 012345
Visit Number (FIN): 01234567890ABCD
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4848