



| Procedure | Result | Units | Ref Interval | Accession | Collected | Received | Reported/Verified |
|------------------------------------------|-------------------|-------|--------------|---------------|--------------------|--------------------|--------------------|
| Rheumatoid Factor | <10 | IU/mL | [0-14] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| SSA-52 (Ro52) (ENA) Antibody, IgG | 152 H | AU/mL | [0-40] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| SSA-60 (Ro60) (ENA) Antibody, IgG | 101 H | AU/mL | [0-40] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG | 0 | AU/mL | [0-40] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| PL-12 (alanyl-tRNA synthetase) Antibody | Negative | | [Negative] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| PL-7 (threonyl-tRNA synthetase) Antibody | Negative | | [Negative] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| EJ (glycyl-tRNA synthetase) Antibody | Negative | | [Negative] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| OJ (isoleucyl-tRNA synthetase) Antibody | Negative | | [Negative] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| SRP (Signal Recognition Particle) Ab | Positive * | | [Negative] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| Ku Antibody | Positive * | | [Negative] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| PM/Scl 100 Antibody, IgG | Negative | | [Negative] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| MDA5 (CADM-140) Ab | Negative | | | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| NXP2 (Nuclear matrix protein-2) Ab | Negative | | | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| Interpretive Information | See Note | | | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| Scleroderma (Scl-70) (ENA) Antibody, IgG | 2 | AU/mL | [0-40] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| Cyclic Citrullinated Peptide Ab, IgG | 0 | Units | [0-19] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| RNA Polymerase III Antibody, IgG | 0 | Units | [0-19] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| Antinuclear Antibody (ANA), HEp-2, IgG | Detected * | | [<1:80] | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| ANA Pattern | Speckled * | | | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| ANA Titer | 1:320 * | | | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| Cytoplasmic Pattern Titer | 1:160 * | | | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |
| ANA Interpretive Comment | See Note | | | 19-162-900060 | 11-Jun-19 11:48:00 | 11-Jun-19 11:48:00 | 11-Jun-19 11:51:31 |

11-Jun-19 11:48:00 ANA Interpretive Comment

Speckled Pattern

Clinical associations: SLE, SSc, SjS, DM, PM, MCTD, UCTD. May also be found in healthy individuals
 Main autoantibodies: Anti-SSA-52 (Ro52), anti-SSA-60 (Ro60), anti-SS-B/LA, anti-Topo-1 (anti-Scl-70), Smith, anti-U1-RNP, anti-U2-RNP, anti-Mi-2, anti-TIF1g, anti-Ku, anti-RNA polymerase, anti-DFS70/LEDGF-P75

Cytoplasmic Pattern

Clinical associations: ARS, ILD, IM, SLE, SSc, SjS, RA, MCTD, PBC, AIH, infectious, neurologic, and other inflammatory conditions. May also be found in healthy individuals
 Main autoantibodies: Anti-Ribosomal P, anti-tRNA synthetase (anti-Jo-1, anti-PL-7, anti-PL-12, anti-EJ, anti-OJ), anti-signal recognition particle (anti-SRP) or anti-mitochondria (anti-AMA)

Clinical Relevance

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).

11-Jun-19 11:48:00 SSA-52 (Ro52) (ENA) Antibody, IgG:
 INTERPRETIVE INFORMATION: SSA-52 (Ro52) (ENA) Antibody, IgG

29 AU/mL or Less Negative
 30 - 40 AU/mL Equivocal

* Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

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.

11-Jun-19 11:48:00 SSA-60 (Ro60) (ENA) Antibody, IgG:
 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

11-Jun-19 11:48:00 Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG:
 INTERPRETIVE INFORMATION: Jo-1 Antibody, IgG

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

11-Jun-19 11:48:00 PM/Scl 100 Antibody, IgG:
 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.

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

11-Jun-19 11:48:00 Interpretive Information:
 INTERPRETIVE INFORMATION: Interstitial Lung Disease Autoantibodies

If present, myositis-specific antibodies (MSA) 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 (MAA) 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 | MSA | MAA |
| SSA 52 (Ro) (ENA) Antibody IgG | | X |
| SSA 60 (Ro) (ENA) Antibody IgG | | X |

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| | |
|----------------------------------------------------|---|
| 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 |
| U2 sn (small nuclear) RNP Antibody | 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 |

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

11-Jun-19 11:48:00 Scleroderma (Scl-70) (ENA) Antibody, IgG:
 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.

11-Jun-19 11:48:00 Cyclic Citrullinated Peptide Ab, IgG:
 INTERPRETIVE INFORMATION: Cyclic Citrullinated Peptide Antibody, IgG

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

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Anti-cyclic citrullinated peptide (anti-CCP), IgG antibodies are present in about 69-83 percent of patients with rheumatoid arthritis (RA) and have specificities of 93-95 percent. 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.

11-Jun-19 11:48:00 RNA Polymerase III Antibody, IgG:
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.

11-Jun-19 11:48:00 ANA Interpretive Comment:
INTERPRETIVE INFORMATION: ANA Interpretive Comment

Presence of antinuclear antibodies (ANA) is a hallmark feature of systemic autoimmune rheumatic diseases (SARD). 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. Cytoplasmic pattern is reported as ANA negative. All 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. Negative results do not necessarily rule out SARD.

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