



Procedure	Result	Units	Ref Interval	Accession	Collected	Received	Reported/Verified
Thyroid Peroxidase (TPO) Antibody	5.0	IU/mL	[0.0-9.0]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:56:16
Complement Component 3	50	mg/dL		18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:51:49
Complement Component 4	20	mg/dL		18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:51:49
Rheumatoid Factor	25 H	IU/mL	[0-14]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:51:49
Anti-Nuclear Ab (ANA), IgG by ELISA	Detected *f		[None Detected]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:51:49
Double-Stranded DNA (dsDNA) Ab IgG ELISA	Detected *		[None Detected]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:55:35
Double-Stranded DNA (dsDNA) Ab IgG IFA	1:10 *		[<1:10]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:56:16
Smith (ENA) Antibody, IgG	5	AU/mL	[0-40]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:55:35
SSA-52 (Ro52) (ENA) Antibody, IgG	51 H	AU/mL	[0-40]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:55:35
SSA-60 (Ro60) (ENA) Antibody, IgG	35	AU/mL	[0-40]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:55:35
Ribonucleic Protein (U1) (ENA) Ab, IgG	0	AU/mL	[0-40]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:55:35
SSB (La) (ENA) Antibody, IgG	5	AU/mL	[0-40]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:55:35
Scleroderma (Scl-70) (ENA) Antibody, IgG	21	AU/mL	[0-40]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:55:35
Antinuclear Antibody (ANA), HEp-2, IgG	Detected *		[<1:80]	18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:53:49
ANA Pattern	Homogenous			18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:54:06
ANA Titer	1:640 *f			18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:53:56
ANA Pattern 2	Speckled *			18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:54:07
ANA Titer 2	1:320 *f			18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:54:04
Cytoplasmic Pattern Titer	1:160 *			18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:53:57
ANA Interpretive Comment	See Note			18-289-900139	16-Oct-18 14:41:00	16-Oct-18 14:41:00	16-Oct-18 14:53:49

16-Oct-18 14:41:00 ANA Interpretive Comment

Homogeneous Pattern

Clinical associations: SLE, drug-induced SLE or JIA.

Main autoantibodies: Anti-dsDNA, anti-histones or anti-chromatin (anti-nucleosome)

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).

16-Oct-18 14:41:00 Anti-Nuclear Ab (ANA), IgG by ELISA:

Antibodies to Anti-Nuclear Antibodies (ANA) detected. Additional testing to follow.

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

16-Oct-18 14:41:00 ANA Titer:

Extractable Nuclear Antigen Antibodies (RNP, Smith, Scleroderma, SSA 52, SSA 60, and SSB), Double Stranded DNA (dsDNA) Antibody, IgG and Thyroid Peroxidase (TPO) Antibody to follow.

16-Oct-18 14:41:00 ANA Titer 2:

Extractable Nuclear Antigen Antibodies (RNP, Smith, Scleroderma, SSA 52, SSA 60, and SSB), Double Stranded DNA (dsDNA) Antibody, IgG and Thyroid Peroxidase (TPO) Antibody to follow.

16-Oct-18 14:41:00 Complement Component 3:

REFERENCE INTERVAL: Complement Component 3

Access complete set of age- and/or gender-specific reference intervals for this test in the ARUP Laboratory Test Directory (aruplab.com).

16-Oct-18 14:41:00 Complement Component 4:

REFERENCE INTERVAL: Complement Component 4

Access complete set of age- and/or gender-specific reference intervals for this test in the ARUP Laboratory Test Directory (aruplab.com).

16-Oct-18 14:41:00 Anti-Nuclear Ab (ANA), IgG by ELISA:

INTERPRETIVE INFORMATION: Anti-Nuclear Antibodies (ANA), IgG by ELISA

Anti-Nuclear Antibodies (ANA), IgG by ELISA: ANA specimens are screened using enzyme-linked immunosorbent assay (ELISA) methodology. All ELISA results reported as Detected are further tested by indirect fluorescent assay (IFA) using HEp-2 substrate with an IgG-specific conjugate. The ANA ELISA screen is designed to detect antibodies against dsDNA, histone, SS-A (Ro), SS-B (La), Smith, snRNP/Sm, Scl-70, Jo-1, centromere, and an extract of lysed HEp-2 cells. ANA ELISA assays have been reported to have lower sensitivities than ANA IFA for systemic autoimmune rheumatic diseases (SARD).

Negative results do not necessarily rule out SARD.

16-Oct-18 14:41:00 Double-Stranded DNA (dsDNA) Ab IgG ELISA:

INTERPRETIVE INFORMATION: Double-Stranded DNA (dsDNA) Antibody, IgG by ELISA

Positivity for anti-double stranded DNA (anti-dsDNA) IgG antibody is a diagnostic criterion of systemic lupus erythematosus (SLE). Specimens are initially screened by enzyme-linked immunosorbent assay (ELISA). All ELISA results reported as "detected" (positive) are confirmed by a highly specific IFA titer (Crithidia luciliae indirect fluorescent test [CLIFT]). Some patients with early or inactive SLE may be positive for anti-dsDNA IgG by ELISA but negative by CLIFT. If the patient is negative by CLIFT but positive by ELISA and clinical suspicion remains, consider antinuclear antibody (ANA) testing by IFA. Additional information and recommendations for testing may be found at <http://www.arupconsult.com/Topics/AutoimmuneDz/ConnectiveTissueDz/index.html>.

16-Oct-18 14:41:00 Double-Stranded DNA (dsDNA) Ab IgG IFA:

INTERPRETIVE INFORMATION: Double-Stranded DNA (dsDNA) Antibody, IgG by IFA (using Crithidia luciliae)

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Positivity for anti-double stranded DNA (anti-dsDNA) IgG antibody is a diagnostic criterion of systemic lupus erythematosus (SLE). The presence of the anti-dsDNA IgG antibody is identified by IFA titer (*Crithidia luciliae* indirect fluorescent test [CLIFT]). CLIFT is highly specific for SLE with a sensitivity of 50-60 percent.

Some patients with early or inactive SLE may be positive for anti-dsDNA IgG by ELISA but negative by CLIFT. If the CLIFT result is negative but the patient has a positive ELISA and clinical suspicion remains, consider antinuclear antibody (ANA) testing by IFA. Additional information and recommendations for testing may be found at <http://www.arupconsult.com/Topics/AutoimmuneDz/ConnectiveTissueDz/index.html>.

16-Oct-18 14:41:00 Smith (ENA) Antibody, IgG:
INTERPRETIVE INFORMATION: SMITH (ENA) Ab, IgG

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

Smith antibody is very specific for systemic lupus erythematosus (SLE) but only occurs in 30-35% of SLE cases. The presence of antibodies to Smith is often associated with renal disease.

16-Oct-18 14:41:00 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
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.

16-Oct-18 14:41:00 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

16-Oct-18 14:41:00 Ribonucleic Protein (U1) (ENA) Ab, IgG:
INTERPRETIVE INFORMATION: Ribonucleic Protein (ENA)Antibody, IgG

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

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RNP antibody is seen in 95-100 percent of mixed connective tissue disease and is considered specific for this syndrome if other antibodies are negative; RNP is also present in 20-30 percent of systemic lupus erythematosus and 15-25 percent of progressive systemic sclerosis. RNP antigens also contain epitopes that are immunologically identical to free Smith antigens, therefore, the Smith antibody response must be considered when interpreting RNP results.

16-Oct-18 14:41:00 SSB (La) (ENA) Antibody, IgG:
INTERPRETIVE INFORMATION: SSB (La) (ENA) Ab, IgG

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

SSB (La) antibody is seen in 50-60% of Sjogren syndrome cases and is specific if it is the only ENA antibody present. 15-25% of patients with systemic lupus erythematosus (SLE) and 5-10% of patients with progressive systemic sclerosis (PSS) also have this antibody.

16-Oct-18 14:41:00 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.

16-Oct-18 14:41:00 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

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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.