

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

Physician: Doctor, Example

**Patient: Patient, Example**

**DOB:** 3/13/2009  
**Gender:** Female  
**Patient Identifiers:** 01234567890ABCD, 012345  
**Visit Number (FIN):** 01234567890ABCD  
**Collection Date:** 00/00/0000 00:00

**Thyroid Peroxidase (TPO) Antibody**

ARUP test code 0050075

Thyroid Peroxidase (TPO) Antibody	<b>38.6 IU/mL</b>	<b>H</b>	<b>(Ref Interval: 0.0-9.0)</b>
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**Lupus Comprehensive Reflexive Panel**

ARUP test code 0050119

Complement Component 3	150 mg/dL	(Ref Interval: 82-163)
	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).	

Complement Component 4	20 mg/dL	(Ref Interval: 14-41)
	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).	

Rheumatoid Factor	<b>26 IU/mL</b>	<b>H</b>	<b>(Ref Interval: 0-14)</b>
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Anti-Nuclear Ab (ANA), IgG by ELISA	<b>Detected</b>	<b>*</b>	<b>(Ref Interval: None Detected)</b>
	Antibodies to Anti-Nuclear Antibodies (ANA) detected. Additional testing to follow.		

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

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

Antinuclear 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, histones, SS-A (Ro), SS-B (La), Smith, Smith/RNP, Scl-70, Jo-1, centromeric proteins, other antigens extracted from the HEP-2 cell nucleus. 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.

**Double-Stranded DNA (dsDNA) Antibody, IgG by ELISA with Reflex to dsDNA Antibody, IgG by IFA**

ARUP test code 0050215

Double-Stranded DNA (dsDNA) Ab IgG ELISA **166 IU H** (Ref Interval: 0-24)

INTERPRETIVE INFORMATION: Double-Stranded DNA (dsDNA) Ab IgG ELISA  
 24 IU or less.....Negative  
 25-30 IU.....Borderline Positive  
 30-60 IU.....Low Positive  
 60-200 IU.....Positive  
 201 IU or greater....Strong Positive

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). If ordered as reflex (0050215), positive ELISA results (>24 IU) will be reflexed to a highly specific IFA titer (Crithidia lucillae indirect fluorescent test [CLIFT]) for confirmation. 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 <https://arupconsult.com/content/systemic-lupus-erythematosus>.

**Smith (ENA) Antibody, IgG**

ARUP test code 0050085

Smith (ENA) Antibody, IgG **4 AU/mL** (Ref Interval: 0-40)

INTERPRETIVE INFORMATION: Smith (ENA) Antibody, IgG  
 29 AU/mL or Less ..... Negative  
 30 - 40 AU/mL ..... Equivocal  
 41 AU/mL or Greater ..... Positive

Smith antibody is highly specific (greater than 90 percent) for systemic lupus erythematosus (SLE) but only occurs in 30-35 percent of SLE cases. The presence of antibodies to Smith has variable associations with SLE clinical manifestations.

**SSA 52 and 60 (Ro) (ENA) Antibodies, IgG**

ARUP test code 2012074

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

Unless otherwise indicated, testing performed at:

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

6 AU/mL (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**

22 AU/mL (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) Antibody, IgG**

ARUP test code 0050470

**Smith/RNP (ENA) Ab, IgG**

6 Units (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.

**SSB (La) (ENA) Antibody, IgG**

ARUP test code 0050692

**SSB (La) (ENA) Antibody, IgG**

28 AU/mL (Ref Interval: 0-40)

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.

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

ARUP test code 0050599

Scleroderma (Scl-70) (ENA) Antibody, IgG	7 AU/mL	(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.

**Antinuclear Antibody (ANA) with HEp-2 Substrate, IgG by IFA**

ARUP test code 3000082

Antinuclear Antibody (ANA), HEp-2, IgG	<b>Detected</b>	*	(Ref Interval: <1:80)
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ANA Interpretive Comment

See Note  
Homogeneous Pattern  
Clinical associations: SLE, drug-induced SLE or JIA.  
Main autoantibodies: Anti-dsDNA, anti-histones or anti-chromatin (anti-nucleosome)  
  
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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Unless otherwise indicated, testing performed at:

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.

**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	Homogeneous	*
ANA Titer	1:1280	*

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.

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Unless otherwise indicated, testing performed at:

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Thyroid Peroxidase (TPO) Antibody	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Complement Component 3	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Complement Component 4	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Rheumatoid Factor	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Anti-Nuclear Ab (ANA), IgG by ELISA	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Double-Stranded DNA (dsDNA) Ab IgG ELISA	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Smith (ENA) Antibody, IgG	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SSA-52 (Ro52) (ENA) Antibody, IgG	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SSA-60 (Ro60) (ENA) Antibody, IgG	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Smith/RNP (ENA) Ab, IgG	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
SSB (La) (ENA) Antibody, IgG	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Scleroderma (Scl-70) (ENA) Antibody, IgG	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Antinuclear Antibody (ANA), HEp-2, IgG	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Pattern	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Titer	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
ANA Interpretive Comment	23-039-117669	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

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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: 23-039-117669  
Patient Identifiers: 01234567890ABCD, 012345  
Visit Number (FIN): 01234567890ABCD  
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