Antinuclear Antibody (ANA) with HEp-2 Substrate

Antinuclear antibody (ANA) testing is used in the diagnostic evaluation of various autoimmune diseases, including connective tissue diseases such as systemic lupus erythematosus (SLE), Sjögren syndrome, and systemic sclerosis (SSc). Initial testing for autoimmune connective tissue diseases (also referred to as systemic autoimmune rheumatic diseases, or SARDs) should include C-reactive protein (CRP), ANA, rheumatoid factor, and cyclic citrullinated peptide antibodies. Follow-up or confirmatory testing for positive ANA may be guided pattern(s) observed and/or patient’s clinical presentation.

DISEASE OVERVIEW

Diagnostic Issues

Autoimmune connective tissue diseases may present with similar features, making diagnosis difficult. Possible diagnoses may include:

- Inflammatory myopathies
- Mixed connective tissue disease
- SSc
- Sjögren syndrome
- SLE
- Undifferentiated connective tissue disease

ANA with reflex by immunofluorescent assay (IFA) (based on ANA patterns) may help in distinguishing between diseases.

Pathophysiology

Antigen/antibody complexes affect a variety of organs in connective tissue diseases, which frequently leads to a multisystem disease presentation. ANA antibodies are the most common antibodies and may precede the onset of connective tissue disease. While certain antibodies may show specificity for certain diseases (e.g., SSA 52, SSA 60, and SSB antibodies for Sjögren syndrome), ANA antibodies are not specific for connective tissue disease and may also be associated with infectious diseases, cancers, other autoimmune disorders (e.g., autoimmune liver disease), and advanced age, and may even be present in healthy patients.

TEST INTERPRETATION

Results

Dual or mixed pattern may indicate disease overlap. Visit the International Consensus on Antinuclear Antibody Patterns website for additional information about pattern and disease associations.

Limitations

- Dual or mixed patterns will not be reflexed; additional testing for dual or mixed patterns should be determined by the ordering physician
- A negative ANA by IFA test does not rule out the presence of connective tissue disease

ANA IFA Reflex Testing Algorithm
REFERENCES


RELATED INFORMATION

Connective Tissue Diseases – Systemic Autoimmune Rheumatic Diseases
Inflammatory Myopathies
Mixed Connective Tissue Disease - MCTD
RELATED TESTS

Lupus Comprehensive Reflexive Panel 0050119

Double-Stranded DNA (dsDNA) Antibody, IgG by ELISA with Reflex to dsDNA Antibody, IgG by IFA 0050215
Method: Quantitative Enzyme-Linked Immunosorbent Assay/Semi-Quantitative Indirect Fluorescent Antibody

Double-Stranded DNA (dsDNA) Antibody, IgG by IFA (using Crithidia luciliae) 2002693
Method: Semi-Quantitative Indirect Fluorescent Antibody

Rheumatoid Arthritis Panel with Reflex to Rheumatoid Factors, IgA, IgG, and IgM by ELISA 2003278
Method: Semi-Quantitative Enzyme-Linked Immunosorbent Assay/Quantitative Immunoturbidimetry/Quantitative Enzyme-Linked Immunosorbent Assay

Connective Tissue Diseases Profile 0051668
Method: Semi-Quantitative Multiplex Bead Assay

Smith and Smith/RNP (ENA) Antibodies, IgG 3000460
Method: Semi-Quantitative Multiplex Bead Assay

Extractable Nuclear Antigen Antibodies (Smith/RNP, Smith, SSA 52, SSA 60, and SSB) 0050652
Method: Semi-Quantitative Multiplex Bead Assay

SSA 52 and 60 (Ro) (ENA) Antibodies, IgG 2012074
Method: Semi-Quantitative Multiplex Bead Assay

Rheumatoid Arthritis Panel 2003277
Method: Semi-Quantitative Enzyme-Linked Immunosorbent Assay/Immunoturbidimetry

Interstitial Lung Disease Autoantibody Panel 3001784
Method: Qualitative Immunoprecipitation/Semi-Quantitative Multiplex Bead Assay/Qualitative Immunoblot/Semi-Quantitative Enzyme-Linked Immunosorbent Assay/Quantitative Immunoturbidimetry

Extended Myositis Panel 3001781
Method: Qualitative Immunoprecipitation/Semi-Quantitative Multiplex Bead Assay/Qualitative Immunoblot

Dermatomyositis and Polymyositis Panel 3000478
Method: Semi-Quantitative Multiplex Bead Assay/Qualitative Immunoblot

Polymyositis Panel 2013990
Method: Qualitative Immunoprecipitation/Semi-Quantitative Multiplex Bead Assay

Dermatomyositis Autoantibody Panel 3001782
Method: Qualitative Immunoprecipitation/Qualitative Immunoblot

Comprehensive Systemic Sclerosis Panel 3000480

Criteria Systemic Sclerosis Panel 3000479

Chromatin Antibody, IgG 2005287
Method: Semi-Quantitative Enzyme-Linked Immunosorbent Assay

Smith (ENA) Antibody, IgG 0050085
Method: Semi-Quantitative Multiplex Bead Assay

SSB (La) (ENA) Antibody, IgG 0050692
Method: Semi-Quantitative Multiplex Bead Assay

Smith/RNP (ENA) Antibody, IgG 0050470
Method: Semi-Quantitative Multiplex Bead Assay

Ribosomal P Protein Antibody 0099249
Method: Semi-Quantitative Multiplex Bead Assay

Jo-1 Antibody, IgG 0099592
Method: Semi-Quantitative Multiplex Bead Assay

Centromere Antibody, IgG 0050714
Method: Semi-Quantitative Multiplex Bead Assay

Scleroderma (Scl-70) (ENA) Antibody, IgG 0050599
Method: Semi-Quantitative Multiplex Bead Assay

RNA Polymerase III Antibody, IgG 2001601
Method: Semi-Quantitative Enzyme-Linked Immunosorbent Assay

PM/Scl-100 Antibody, IgG by Immunoblot 2003040
Method: Qualitative Immunoblot

Fibrillarin (U3 RNP) Antibody, IgG 2012173
Method: Qualitative Immunoblot

3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase (HMGR) Antibody, IgG 2013101
Method: Semi-Quantitative Enzyme-Linked Immunosorbent Assay