Empower faster autoimmune diagnosis and referrals with **just 1 blood draw**

Go beyond ANA with comprehensive autoimmune testing

Antinuclear antibody (ANA) testing alone is not enough to definitively diagnose an autoimmune disease, because symptoms across disorders can be vague, vary from patient to patient, and overlap. Expedite autoimmune diagnosis and improve outcomes with comprehensive autoimmune testing that is more specific than ANA alone.[1]

ANA, IFA, Cascade and Rheumatoid Arthritis Panel 2, with Reflexes
(Test Code: 94954)

Automatic reflex panel that tests for the 8 most common autoimmune diseases using a tiered cascade approach when ANA results are positive

ANAlyzeR™ ANA, IFA with Reflex Titer/Pattern, Systemic Autoimmune Panel 1
(Test Code: 36378)

Fixed panel of 20+ analytes that gives a full-picture view (whether ANA is positive or negative), to support differential diagnosis, especially for patients with more than 1 autoimmune condition

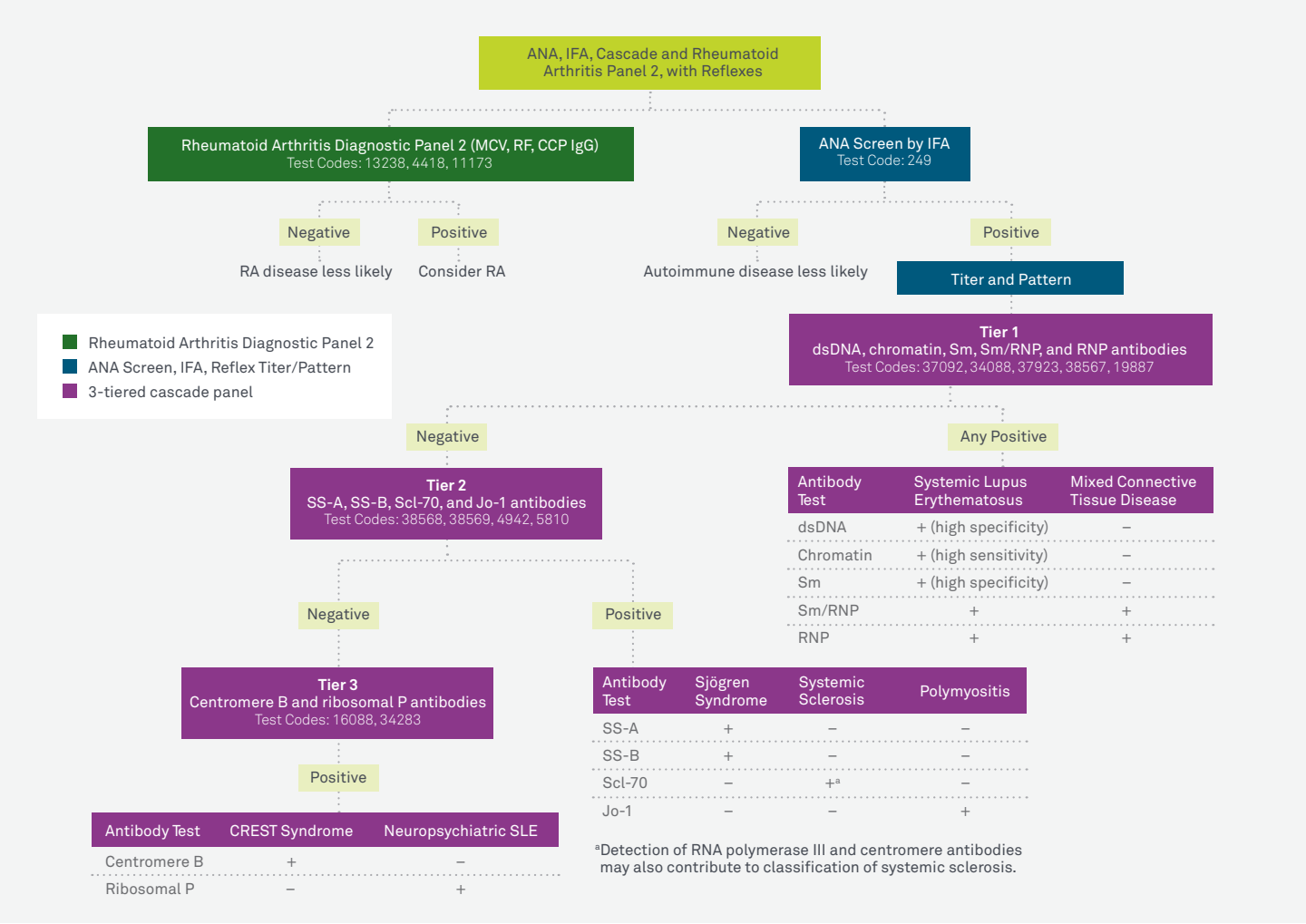
See components of order codes on pages 2 and 3.

The reflexive approach: Cascade

Expedite referrals and differential diagnosis with automatic reflex to disease-specific antibodies

- Uses the gold standard, highly sensitive immunofluorescence assay (IFA) with HEp-2 cells[2]
- Always tests for ANA and Rheumatoid Arthritis Diagnostic Panel 2, and automatically reflexes a positive ANA screen to a tiered cascade of specific antibodies
- Rheumatoid Arthritis Diagnostic Panel 2 components include:
  - Widely used RA markers RF (rheumatoid factor) and CCP (cyclic citrullinated peptide)
  - Mutated citrullinated vimentin (MCV) antibody, an RA marker that can help identify patients with undifferentiated arthritis who will develop RA in the future,[3-4] and can also assess risk for progression to severe disease.[5-7]

Tiered cascade for screening and diagnosis of patients with suspected autoimmune disease



Test Code	CPT® Codes	Test Name
94954	83520, 86038, 86200, 86431	ANA, IFA, Cascade and Rheumatoid Arthritis Panel 2, with Reflexes ANA Screen, IFA, Reflex Titer/Pattern, and Reflex to Mplx 11 Ab Cascade, Rheumatoid Factor, Cyclic Citrullinated Peptide (CCP) Antibody (IgG), Mutated Citrullinated Vimentin (MCV) antibody. Tier 1: markers include dsDNA, Sm/RNP, RNP, Sm, and Chromatin; Tier 2: SSA, SSB, Scl-70, Jo-1; Tier 3: Ribosomal P and Centromere B

Specimen requirements: Allow blood to clot (10–15 minutes) at room temperature. Centrifuge and separate from cells. 4 mL serum (minimum 2 mL). Sample is stable for 4 days at room temperature.

The component tests may also be ordered individually with their own test codes. Biomarkers and corresponding test codes are listed respectively.

If ANA IFA is positive and no positive specific antibodies are detected, correlate with clinical findings and consider other autoimmune diseases and tests.

The tiered cascade was developed by Quest Diagnostics based in part on references 8–13. It is provided for informational purposes only and is not intended as medical advice. A physician's test selection and interpretation, diagnosis, and patient management decisions should be based on their education, clinical expertise, and assessment of the patient.

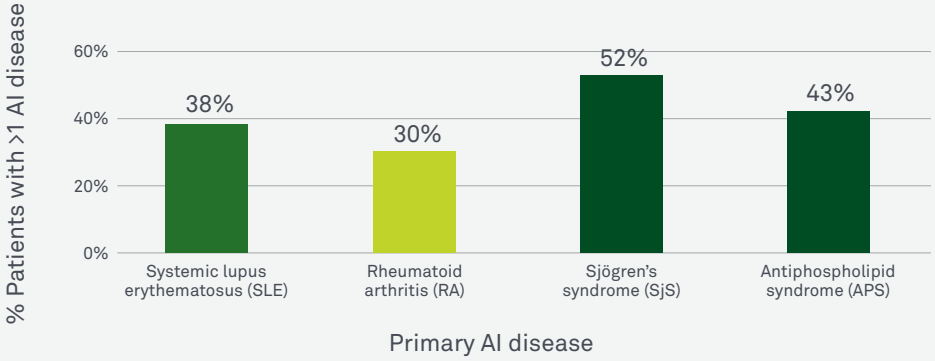
The CPT codes provided are based on AMA guidance and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payer being billed.

The analytic approach: ANAlyzeR™

Enable timely, accurate diagnosis even for patients with multiple autoimmune diseases

- Utilizes IFA with HEp-2 cells, which remains the gold standard[2]
- Full-picture approach differentially detects autoimmune diseases in patients with more than 1 condition
- All components use well-established CPT codes

Diagnosis of autoimmune disease overlap requires testing for multiple disease-specific antibodies



Patients with 1 autoimmune (AI) disease are at higher risk for multiple autoimmune diseases[14-16]

ANAlyzeR™ ANA, IFA with Reflex Titer/Pattern, Systemic Autoimmune Panel 1

Component Test	Test Code	Positive results are predictive of:
ANA screen, IFA with reflex to titer/pattern	249	Autoimmune disease
dsDNA antibody, Crithidia IFA with reflex to titer	37092	Lupus
Complement component C3c and C4c	351, 353	
Chromatin (nucleosomal) antibody	34088	
Sm antibody	37923	
Sm/RNP antibody	38567	Lupus and mixed connective tissue disease
RNP antibody	19887	
Rheumatoid factor antibodies (IgA, IgG, IgM)	19705	Rheumatoid arthritis
Mutated Citrullinated Vimentin (MCV) Antibody	13238	
Cyclic citrullinated peptide (CCP) antibody (IgG)	11173	
Sjögren's antibodies (SS-A, SS-B)	38568, 38569	Sjögren syndrome
Scleroderma antibody (Scl-70)	4942	Systemic sclerosis
Jo-1 antibody	5810	Polymyositis
Centromere protein B (CENP-B) antibody	16088	CREST syndrome
Beta-2-glycoprotein I antibodies (IgA, IgM, IgG)	36552, 36553, 36554	Antiphospholipid syndrome
Cardiolipin antibodies (IgA, IgG, IgM)	4661, 4662, 4663	Antiphospholipid syndrome and thrombocytopenia
Thyroid peroxidase antibodies (TPO)	5081	Graves disease and Hashimoto thyroiditis

Test Code	CPT Codes	Test Name
36378	83520 (x4), 86038, 86146 (x3), 86147 (x3), 86160 (x2), 86200, 86235 (x9), 86255, 86376	ANAlyzeR™ ANA, IFA with Reflex Titer/Pattern, Systemic Autoimmune Panel 1

Specimen requirements: Draw 3 full 8.5 mL serum separator tubes. Allow the blood to clot for at least 30 minutes, but not longer than 1 hour before centrifugation. Centrifuge each tube for 15 minutes at 1250 to 1600 RCF. If drawn in red-top (no gel) tubes, transfer serum to transport tube(s). Place sample(s) on cold packs or in refrigerator. Sample is stable 4 days at 2-8 ºC (refrigerated).

The component tests may also be ordered individually with their own test codes. Biomarkers and corresponding test codes are listed respectively.

The CPT codes provided are based on AMA guidance and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payer being billed.

Simplify diagnostic complexity with Quest

Get your patients the care they need sooner with easy, flexible autoimmune testing that delivers comprehensive analysis.

Reliable results

- Greater sensitivity by utilizing IFA for ANA and dsDNA
- Improved consistency through automation
- Standardized reporting using International Consensus on ANA Patterns (ICAP) nomenclature

Fast, simple workflow

- Patients save time without the need for multiple blood draws
- Expansive approach allows primary care physicians to screen and diagnose patients with fewer visits
- In-network with most health insurance plans

Actionable insights

- Identifies multiple ANA patterns and disease-specific autoantibodies that support more informed referrals
- Provides additional clarity for managing comorbidities and other chronic conditions
- Enable earlier differential diagnosis, so patients can begin therapy sooner

We provide solutions beyond testing, so you can get your patients on the best care path earlier

Ability to **interface with over 1,000 EHR systems** ensures seamless access to ordering and results

Expand access to patient testing with extensive network of approximately **2,400 Patient Service Centers**

A team of **MDs and PhDs you can consult with** on test ordering and results interpretation

Dedicated account team to provide **hands-on support** for all your needs

Learn more about our **tests that enable timely autoimmune care** by visiting **DiagnoseAutoimmune.com** or contacting your Quest representative

References

1. MedlinePlus. Autoimmune Diseases. Updated October 15, 2021. Accessed April 27, 2023. https://medlineplus.gov/autoimmunediseases.html **2.** Agmon-Levin N, Damoiseaux J, Kallenberg C, et al. International recommendations for the assessment of autoantibodies to cellular antigens referred to as anti-nuclear antibodies. *Ann Rheum Dis.* 2014;73 (1):17-23. doi:10.1136/annrheumdis-2013-203863 **3.** Liu X, Jia R, Zhao J, Li Z. The role of anti-mutated citrullinated vimentin antibodies in the diagnosis of early rheumatoid arthritis. *J Rheumatol.* 2009;36(6):1136-1142. doi:10.3899/jrheum.080796 **4.** Damjanovska L, Thabet MM, Levarth EW, et al. Diagnostic value of anti-MCV antibodies in differentiating early inflammatory arthritis. *Ann Rheum Dis.* 2010;69(4):730-732. doi:10.1136/ard.2009.108456 **5.** Innala L, Kokkonen H, Eriksson C, et al. Antibodies against mutated citrullinated vimentin are a better predictor of disease activity at 24 months in early rheumatoid arthritis than antibodies against cyclic citrullinated peptides. *J Rheumatol*. 2008;35(6):1002-1008 **6.** van der Linden MPM, van de Woude D, Ioan-Facsinay A, et al. Value of anti-modified vimentin and third generation anti-cyclic citrullinated peptide compared with second-generation anti-cyclic citrullinated peptide and rheumatodi factor in predicting disease outcome in undifferentiated arthritis and rheumatoid arthritis. *Arthritis Rheum*. 2009;60(8):2232-2241. doi:10.1002/art.24716 **7.** Degboe Y, Constantin A, Nigon D, et al. Predictive value of autoantibodies from anti-CCP2, anti-MCV and anti-human citrullinated fibrinogen tests, in early rheumatoid arthritis patients with rapid radiographic progression at 1 year: results from the ESPOIR cohort. *RMD Open*. 2015;1:e000180. doi:10.1136/rmdopen-2015-000180 **8.** American College of Rheumatology. Position Statement: Methodology of testing for antinuclear antibodies. Updated December 2019. Accessed April 14, 2023. https://assets.contentstack.io/v3/assets/bltee37abb6b278ab2c/blta48818378bc89445/64027e30ff1d0646c81702ac/Methodology_of_Testing_Antinuclear_Antibodies_Position_Statement.pdf **9.** Aletaha D, Neogi T, Silman AJ, et al. 2010 rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative. *Arthritis Rheum.* 2010;62:2569-2581. **10.** Satoh M, Chan EK, Sobel ES, et al. Clinical implication of autoantibodies in patients with systemic rheumatic diseases. *Expert Rev Clin Immunol*. 2007;3:721-738. **11.** Stinton LM, Fritzler MJ. A clinical approach to autoantibody testing in systemic autoimmune rheumatic disorders. *Autoimmun Rev*. 2007;7:77-84. **12.** Petri M, Orbai AM, Alarcon GS, et al. Derivation and validation of the Systemic Lupus International Collaborating Clinics classification criteria for systemic lupus erythematosus. *Arthritis Rheum*. 2012;64:2677-2686. **13.** Cappelli S, Bellando Randone S, Martinovic D, et al. "To be or not to be," ten years after: evidence for mixed connective tissue disease as a distinct entity. *Semin Arthritis Rheum*. 2012;41:589-598. **14.** Lockshin ME, Levine AB, Erkan D. Patients with overlap autoimmune disease differ from those with 'pure' disease. *Lupus Sci Med*. 2015;2:e000084. doi:10.1136/lupus-2015-000084 **15.** Icen M, Nicola PJ, Maradit-Kremers H, et al. Systemic lupus erythematosus features in rheumatoid arthritis and their impact on overall mortality. *J Rheumatol*. 2009;36(1):50-57. doi:10.3899/jrheum.080091 **16.** Panush RS, Kramier N, Rosenstein ED, Wise LM. Undifferentiated systemic rheumatic (connective tissue) diseases and overlap syndromes. UptoDate. Updated August 11, 2021. Accessed April 14, 2023. https://www.uptodate.com/contents/undifferentiated-systemic-rheumatic-connective-tissue-diseases-and-overlap-syndromes

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