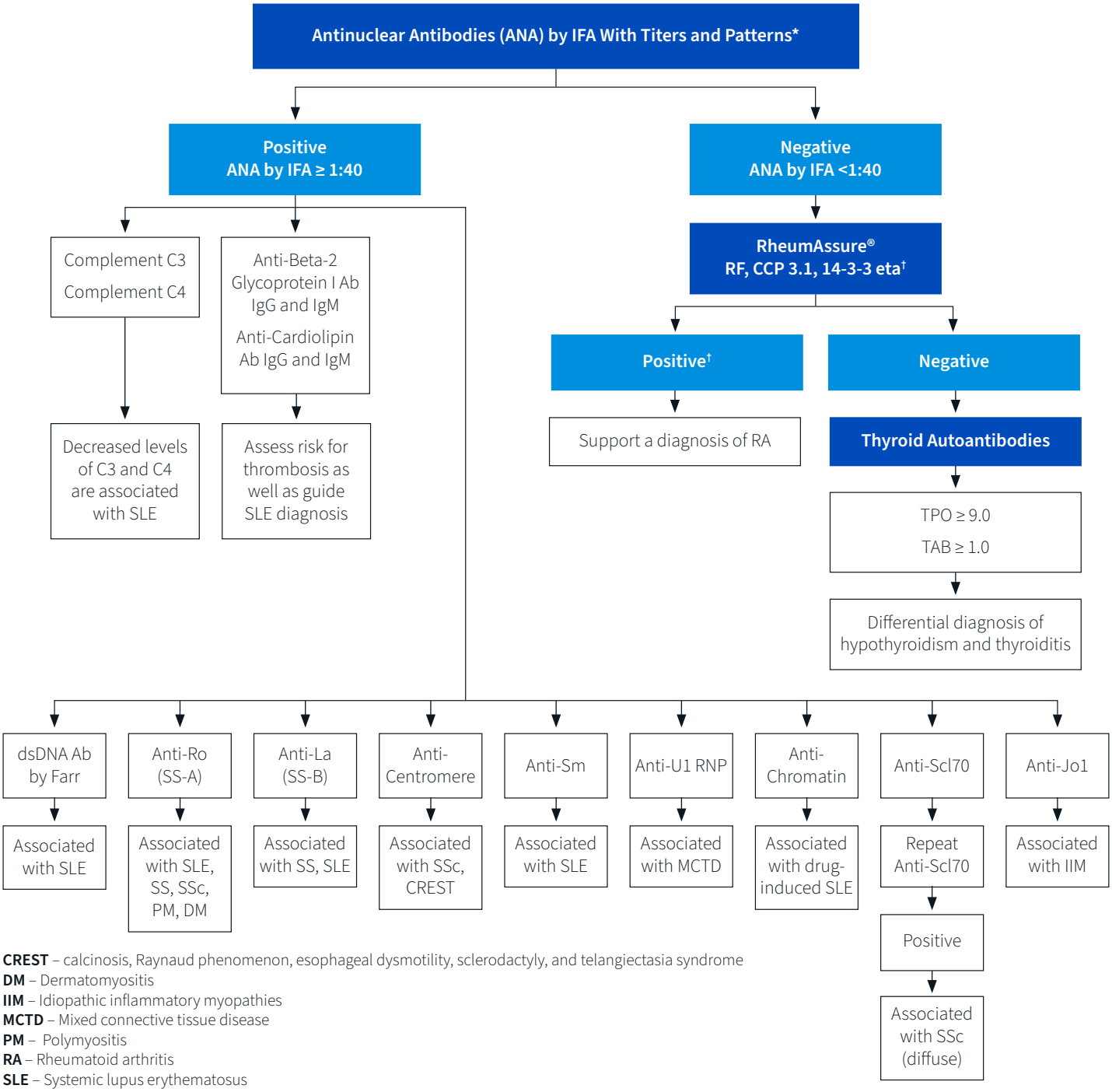
RHEUMATOLOGY

Connective Tissue Disease Cascade



CREST – calcinosis, Raynaud phenomenon, esophageal dysmotility, sclerodactyly, and telangiectasia syndrome
DM – Dermatomyositis
IIM – Idiopathic inflammatory myopathies
MCTD – Mixed connective tissue disease
PM – Polymyositis
RA – Rheumatoid arthritis
SLE – Systemic lupus erythematosus
SSc – Systemic sclerosis
SS – Sjögren syndrome

†Positive –14-3-3 eta ≥ 0.2

If cascade results are negative, correlate with clinical findings and consider additional testing.

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Comprehensive cascade provides testing that differentiates between many acquired autoimmune diseases.

- If ANA is positive, cascade will reflex to additional testing associated with SLE, including complement (C3, C4), antiphospholid syndrome (APS), and nine monospecific autoantibodies
- If ANA is negative, cascade will reflex to RheumAssure® to aid in assessing a possible diagnosis of RA
- If RheumAssure is negative, cascade will reflex to thyroid antibodies to aid in differential diagnosis of hypothyroidism and thyroiditis

The Labcorp Difference

- **ANA performed by immunofluorescence assay (IFA) with titer results reported at a 1:40 dilution**. Reflexed markers by ELISA.
  - Consistency: seven patterns are identified automatically, including the titer result[1]
  - High-quality results: detailed review process, including technologist confirmation of all results

*Pattern	Suggested disease association
Homogeneous	Systemic lupus erythematosus (SLE), drug-induced SLE
Nucleolar	Scleroderma, polymyositis-scleroderma overlap, Sjögren syndrome (SS)
Speckled	SLE, mixed connective tissue disease (MCTD), scleroderma (diffuse), SS
Centromere	Scleroderma (limited)
Spindle Apparatus	Rare in systemic autoimmune rheumatic disease (SARD)
Nuclear Membrane	SLE, SS, seronegative rheumatoid arthritis (RA)
Midbody	Low predictive value of any disease, but described in scleroderma, Reynaud phenomena
Nuclear Dot	Primary biliary cholangitis (PBC)
PCNA	SLE
Centriole	Undifferentiated connective tissue disease (UCTD), RA, Scleroderma, Raynaud phenomena, SLE, RA, PBC

- **dsDNA by Farr** – the gold standard[2] for DNA antibody testing, detects high avidity anti-dsDNA antibodies. The Farr assay is the most specific method for detecting dsDNA autoantibodies. Significant elevations in dsDNA autoantibody concentrations confirm the diagnosis of systemic lupus erythematosus (SLE).
- **14-3-3 eta protein** – highly specific for RA and is elevated in both established RA and early RA.[3,4] It may provide a 15% incremental benefit in identifying early RA in RF-negative and anti-CCP Ab-negative patients.[5]

Test Name	Test No.
Connective Tissue Disease (CTD) Cascade	**520340**

References

1. EUROIMMUN Systems for full automation of IIFT. Luebeck, Germany: Euroimmun; January 2018.
2. Peng SL, Craft JE. Anti-nuclear Antibodies. In: Kelley and Firestein's Textbook of Rheumatology (Tenth Edition); Firestein GS, Budd RC, Gabriel SE, McInnes IB, O'Dell JR, eds. Elsevier: 2017;817-830.
3. Maksymowych WP, Boire G, van Schaardenburg D, et al. 14-3-3η Autoantibodies: diagnostic use in early rheumatoid arthritis. *J Rheumatol*. 2015 Sep;42(9):1587-1594.
4. Maksymowych WP, Naides SJ, Bykerk V, et al. Serum 14-3-3η is a novel marker that complements current serological measurements to enhance detection of patients with rheumatoid arthritis. *J Rheumatol*. 2014 Nov;41(11):2104-2113.
5. Maksymowych WP, van der Heijde D, Allaart CF, et al. 14-3-3 η is a novel mediator associated with the pathogenesis of rheumatoid arthritis and joint damage. *Arthritis Res Ther*. 2014 Apr 21;16(2):R99.

For more information, contact your local Labcorp representative, or visit **Labcorp.com**.

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