Autoimmune / rheumatologic serology board-review table

Marker	Most associated disease(s)	Diagnostic value / meaning	Key caveats
ANA	SLE, Sjögren, systemic sclerosis, MCTD, myositis	Sensitive screening test for ANA-associated connective tissue disease; **ANA ≥1:80 is SLE classification entry criterion**	Poor specificity; can be positive in healthy patients, infection, malignancy, drugs
Anti-dsDNA	SLE	Highly specific; correlates with lupus nephritis/activity in many patients	Assay matters; low-level positives less convincing
Anti-Sm	SLE	Very specific for SLE; part of SLE-specific antibody domain	Low sensitivity
Low C3/C4	Active SLE, immune-complex disease	Supports active immune-complex consumption; useful for flare/nephritis monitoring	Not disease-specific
Anti-Ro/SSA	Sjögren, SLE, neonatal lupus, SCLE	Photosensitive rash, sicca, congenital heart block risk	Can be ANA-negative by some assays
Anti-La/SSB	Sjögren, SLE	Supports Sjögren/SLE, especially with SSA	Less sensitive than SSA
RF	RA, Sjögren, chronic infection	RA classification marker; higher titers increase likelihood	Less specific than anti-CCP; positive in age, hepatitis C, endocarditis
Anti-CCP / ACPA	RA	High specificity, often >90%; predicts erosive disease	Sensitivity roughly 70–75%; negative test does not exclude RA
HLA-B27	Axial spondyloarthritis, uveitis, reactive arthritis	Supports diagnosis with inflammatory back pain/uveitis/enthesitis	Not diagnostic alone; prevalence varies by ancestry
Anti-centromere	Limited systemic sclerosis	Strongly associated with limited cutaneous disease, PAH risk	Usually less ILD than Scl-70 phenotype
Anti-Scl-70 / topoisomerase I	Diffuse systemic sclerosis	Associated with diffuse skin disease and ILD risk	Assay false positives occur
Anti-RNA polymerase III	Diffuse systemic sclerosis	Renal crisis risk; rapid skin progression; malignancy association	Check BP/renal function closely
Anti-U1 RNP	MCTD, overlap CTD	High-titer marker for MCTD phenotype	Also seen in SLE/overlap
Anti-Jo-1	Antisynthetase syndrome	Myositis + ILD + arthritis + mechanic’s hands	Other antisynthetase Abs may be Jo-1 negative
Anti-Mi-2	Dermatomyositis	Classic DM rash/myositis; generally better prognosis	Less associated with ILD
Anti-MDA5	Amyopathic DM	Rapidly progressive ILD risk	High-risk marker
Anti-TIF1-γ	Dermatomyositis	Malignancy-associated DM, especially adults	Drives cancer screening
Anti-SRP / anti-HMGCR	Immune-mediated necrotizing myopathy	Severe necrotizing myopathy; HMGCR linked to statin exposure	CK often very high
c-ANCA / PR3	GPA	Strongly supports granulomatosis with polyangiitis in compatible syndrome	False positives possible; do not diagnose without clinical vasculitis
p-ANCA / MPO	MPA, EGPA, renal-limited vasculitis	Supports microscopic polyangiitis or EGPA phenotype	MPO/PR3 immunoassay more useful than pattern alone
Anticardiolipin IgG/IgM	Antiphospholipid syndrome	Thrombosis/pregnancy morbidity marker	Must persist ≥12 weeks; IgG/high titer more meaningful
β2-glycoprotein I IgG/IgM	APS	More specific APS antibody	Triple positivity = highest thrombotic risk

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Lupus anticoagulant	APS	Strongest thrombosis association	Can be confounded by anticoagulants
Anti-mitochondrial Ab / AMA	Primary biliary cholangitis	Highly suggestive with cholestatic LFTs	Check ALP, GGT, IgM
Anti-smooth muscle Ab	Autoimmune hepatitis type 1	Supports AIH with transaminitis/high IgG	Not fully specific
Anti-LKM-1	Autoimmune hepatitis type 2	Pediatric/young AIH phenotype	Can overlap with viral hepatitis serology
Anti-TTG IgA	Celiac disease	First-line screen	Check total IgA; false negative in IgA deficiency
Anti-endomysial IgA	Celiac disease	Very specific confirmatory marker	Operator-dependent
Anti-GBM	Goodpasture disease	Pulmonary–renal syndrome; urgent diagnosis	Requires urgent nephrology/plasma exchange consideration
Cryoglobulins + low C4	Cryoglobulinemic vasculitis	Purpura, neuropathy, GN; often HCV or lymphoproliferative	Specimen handling critical

Pattern recognition pearls

Pattern	Think
ANA + dsDNA/Sm + low complements	SLE, especially active immune-complex disease
RF + anti-CCP	RA; anti-CCP adds specificity and erosive-risk value
SSA/SSB + sicca	Sjögren spectrum
PR3/MPO ANCA + pulmonary–renal syndrome	ANCA-associated vasculitis until proven otherwise
Triple-positive APS panel	Highest-risk antiphospholipid phenotype
Myositis antibody + ILD features	Antisynthetase, MDA5, or overlap myositis

Serology should **support a clinical phenotype**, not replace history, exam, urinalysis, imaging, and tissue diagnosis when needed.

Several medications can produce **inflammatory polyarthritis or lupus-like syndromes that clinically resemble rheumatoid arthritis (RA)**. The pattern and serology help distinguish them.

Drug/Class	Typical arthropathy	Serology	Distinguishing features
Immune checkpoint inhibitors (nivolumab, pembrolizumab, ipilimumab)	Symmetric inflammatory polyarthritis, often RA-like	RF/anti-CCP may be positive or negative	Can persist after stopping drug; other immune-related adverse events common
TNF-α inhibitors (etanercept, infliximab, adalimumab)	Drug-induced lupus with polyarthritis	ANA+, anti-dsDNA+, antihistone occasionally	Rash, serositis; resolves after discontinuation
Hydralazine	Drug-induced lupus	ANA+, antihistone+, dsDNA uncommon	Arthralgia/arthritis common; renal/CNS disease uncommon
Procainamide	Drug-induced lupus	ANA+, antihistone+	Classic cause of DIL
Minocycline	Drug-induced lupus or autoimmune arthritis	ANA+, p-ANCA sometimes	Young acne patients; hepatitis may coexist
Isoniazid	Drug-induced lupus	ANA+, antihistone	Usually mild arthritis/arthralgia
Quinidine	Drug-induced lupus	ANA+, antihistone	Less common now
Methyldopa	Drug-induced lupus	ANA+, antihistone	Rare
Chlorpromazine	Drug-induced lupus	ANA+, antihistone	Rare
Anti-thyroid drugs (propylthiouracil, methimazole)	Lupus-like syndrome or ANCA vasculitis	MPO-ANCA or ANA	Vasculitic manifestations may predominate
Sulfasalazine	Drug-induced lupus (rare)	ANA+, antihistone	Ironically also used to treat RA
Interferon-α	Autoimmune inflammatory arthritis	ANA may develop	Can induce multiple autoimmune diseases
Interferon-β	Inflammatory arthritis	Variable	More commonly reported in MS patients
Checkpoint inhibitor combinations	Severe erosive RA-like arthritis	Variable	May require DMARD therapy
BRAF/MEK inhibitors	Symmetric inflammatory arthritis	Usually seronegative	Oncology patients
Aromatase inhibitors (anastrozole, letrozole, exemestane)	Polyarthralgia, sometimes inflammatory arthritis	Usually negative	Breast cancer therapy; stiffness prominent
DPP-4 inhibitors (sitagliptin, saxagliptin, linagliptin)	Severe inflammatory arthralgia/polyarthritis	Negative	FDA warning; improves after cessation
Bisphosphonates (zoledronic acid)	Acute polyarthritis	Negative	Occurs days after infusion; self-limited
Fluoroquinolones	Arthralgia/tendinopathy	Negative	Tendons more than synovitis
Isotretinoin	Arthralgia, sacroiliitis	Negative	Young adults; inflammatory back pain possible