

Autoantibodies – Utility of repeated testing



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The clear case – repeated testing recommended

Table 3 Relative weights of additive classification criteria items based on 1000Minds analysis for antiphospholipid syndrome (APS) classification

Domain	Level	Original weight	Simplified weight*	Final weight
Laboratory				
7. Antiphospholipid antibody (aPL) testing by coagulation-based functional assays: lupus anticoagulant test	A. Negative or not tested	0	0	0
	B. Positive (single—one time)	9.4	3.1**	1
	C. Positive (persistent)	15.1	5	5
8. aPL testing by solid-phase assays: IgG/IgM anticardiolipin (aCL) and IgG/IgM anti-β ₂ -glycoprotein I (anti-β ₂ GPI) antibody enzyme-linked immunosorbent assay (persistent§§)	A. Negative or not tested	0	0	0
	B. Moderate or high positive (IgM alone) (aCL and/or anti-β ₂ GPI)††	1.3	0.4‡‡	1
	C. Moderate positive (IgG) (aCL and/or anti-β ₂ GPI)	10.8	3.6	4
	D. High positive (IgG) (aCL or anti-β ₂ GPI)	15	5	5
	E. High positive (IgG) (aCL and anti-β ₂ GPI)	20.4	6.8	7

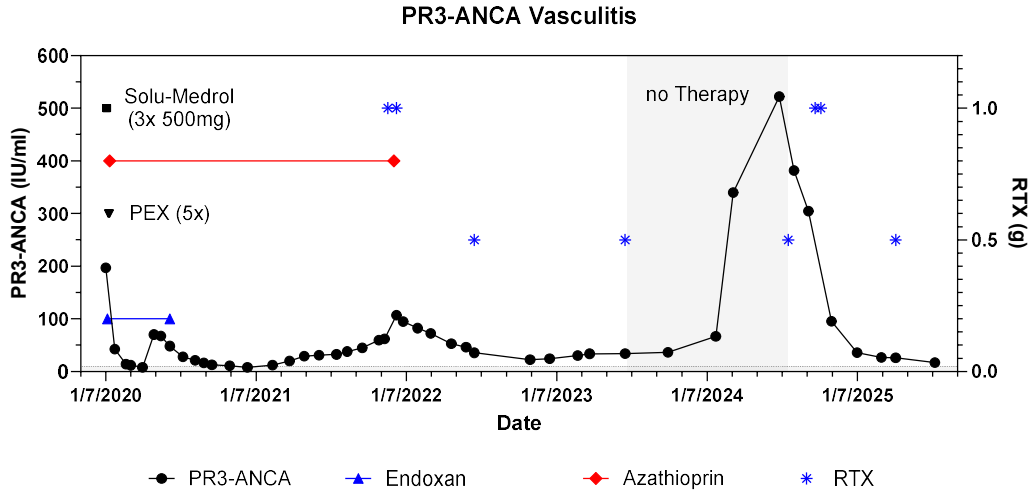
*Simplified weights were calculated by dividing original weights by 3, followed by rounding up (for >0.5) or down (for <0.5), unless otherwise indicated.
 †The simplified weight was rounded up to "1" to prevent a "0" score, as the clinical criterion would contribute to the APS classification score in the context of other low-scoring clinical criteria.
 ‡The simplified weight was rounded up to "1" as this criterion was determined to be sufficient for APS classification.
 **The simplified weight was reduced to "0.4" due to the unique high proportion relative to the persistent lupus anticoagulant (LAC) positivity, and to decrease the likelihood of a case with a single test showing persistence being classified as APS.
 ††Moderate-level (40–79 units) and high-level (≥80 units) aCL/anti-β₂GPI are based on enzyme-linked immunosorbent assays (refer to table 1 for details).
 ‡‡The simplified weight was rounded up to "1" to prevent a "0" score.
 §§ "Persistent" defined as a positive result on at least 2 occasions, at least 12 weeks apart.

§§ "Persistent" defined as a positive result on at least 2 occasions, at least 12 weeks apart.

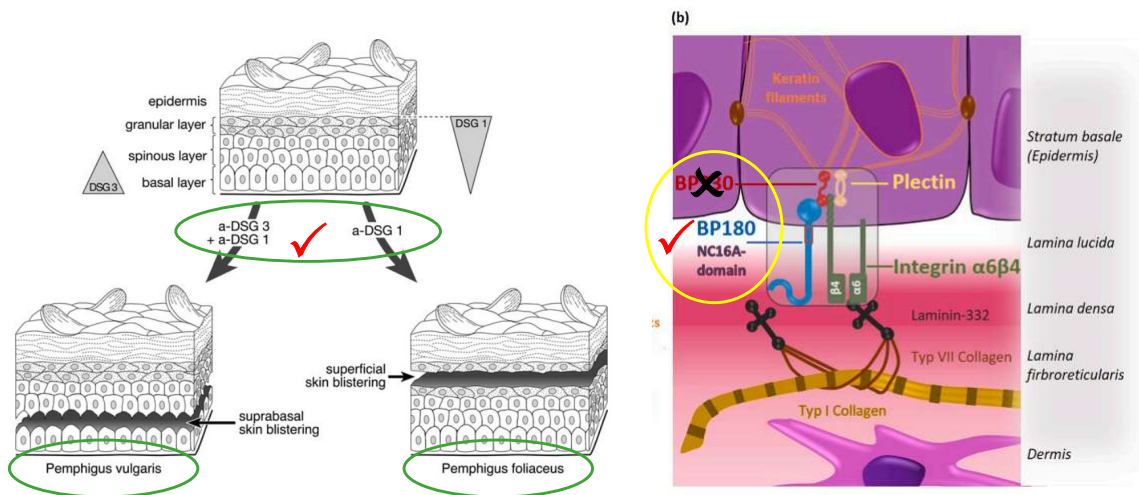
But only 1x

Barbhaiya: Ann Rheum Dis. 2023, DOI: doi.org/10.1136/ard-2023-224609

Useful: antibody monitoring in ANCA-associated vasculitis

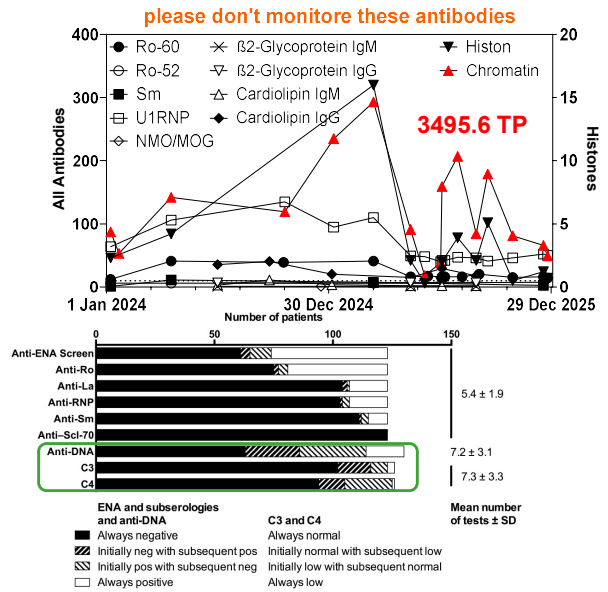
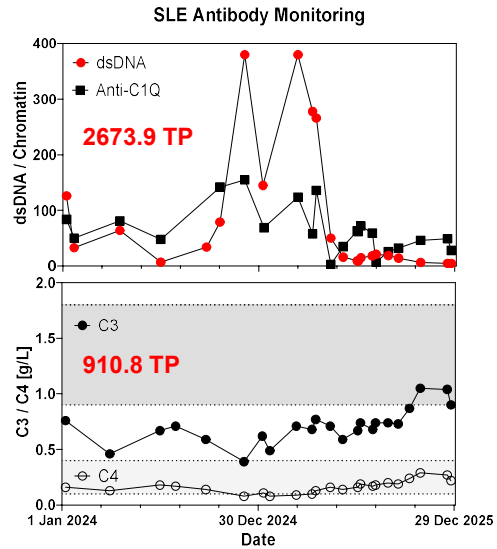


Autoimmune blistering diseases (Pemphigus / Pemphigoid)



Waschke: *Hist Cell Biol* 2008, DOI: 10.1007/s00418-008-0420-0 Ramcke: *J Dermat Sci* 2022, DOI:10.1016/j.jdermsci.2021.11.011

SLE: Anti-dsDNA and many more



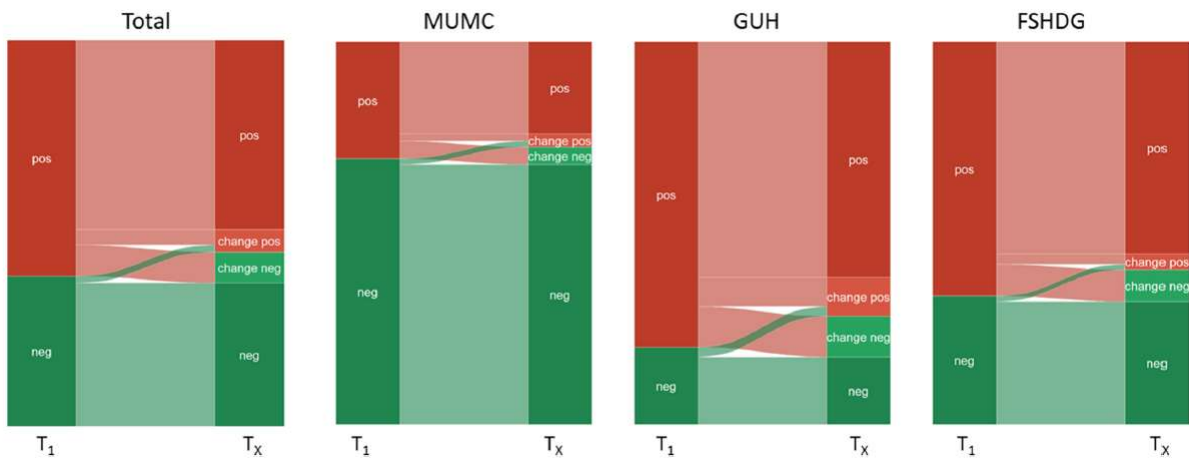
Raissi: *J Rheumatol* 2018, DOI: 10.3899/jrheum.161365

Repeated ENA

A) Maastricht University Medical Center

B) Ghent University Hospital

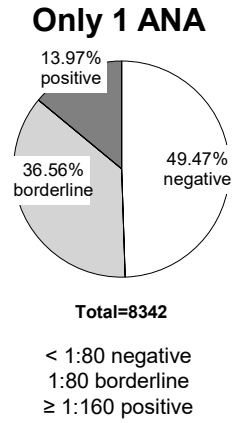
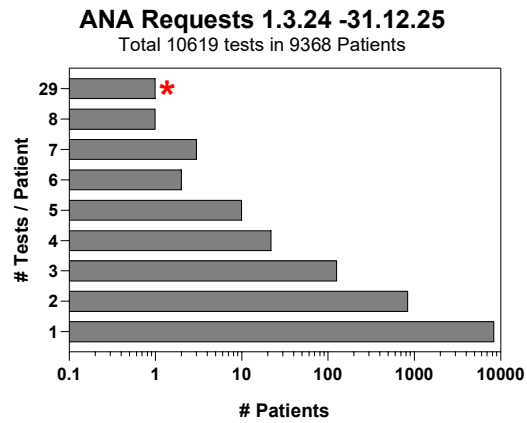
C) Florence S. Giovanni di Dio Hospital



Vroemen: *J Transl Autoimmunity* 2025, DOI: 10.1016/j.jtauto.2025.100298

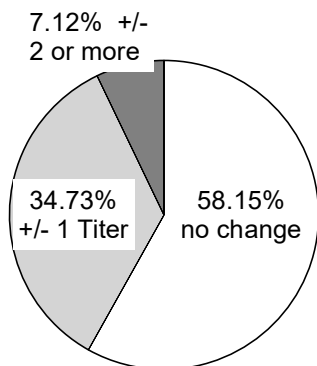
ANA Testing in Inselspital 1.3.24 – 31.12.2025

(Ad-hoc analysis – preliminary results)

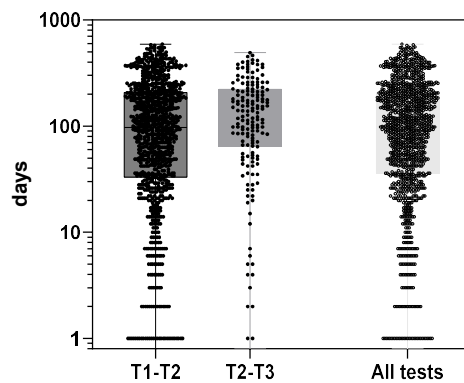


How consistent are ANA titers?

Titer change between 1. and subsequent ANA-Testing

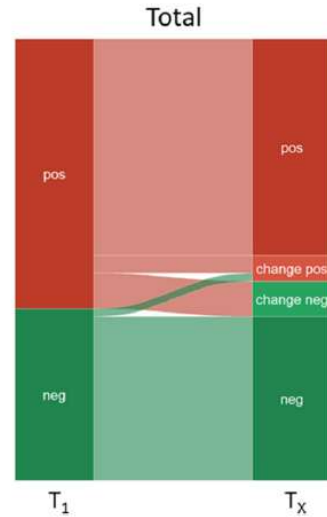
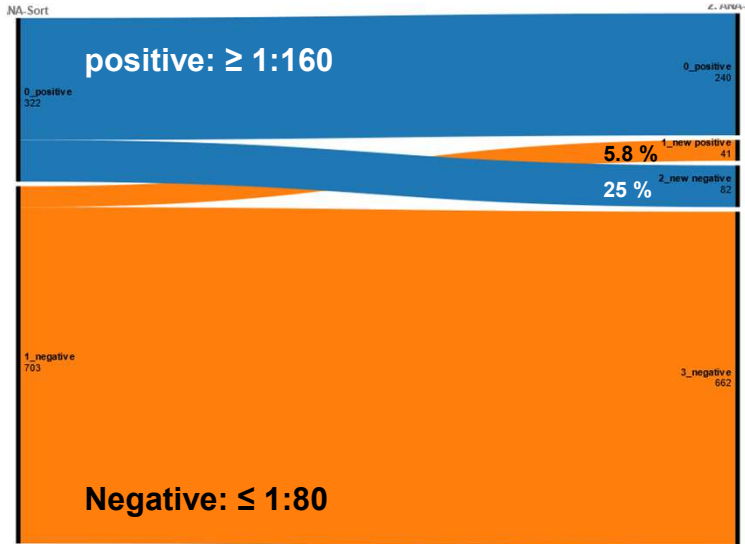


time delay between single tests



	T1-T2	T2-T3	All tests
Minimum	0	0	0
25% Percentile	33	64	36
Median	97	133	100
75% Percentile	208	223	206
Maximum	591	490	591

Interpretative change of ANA results



29x ANA, ENA

Female, 32y

June 2025:

Pregnant with twins.

Both twins AV-block grade 3

→ Sjögren syndrome

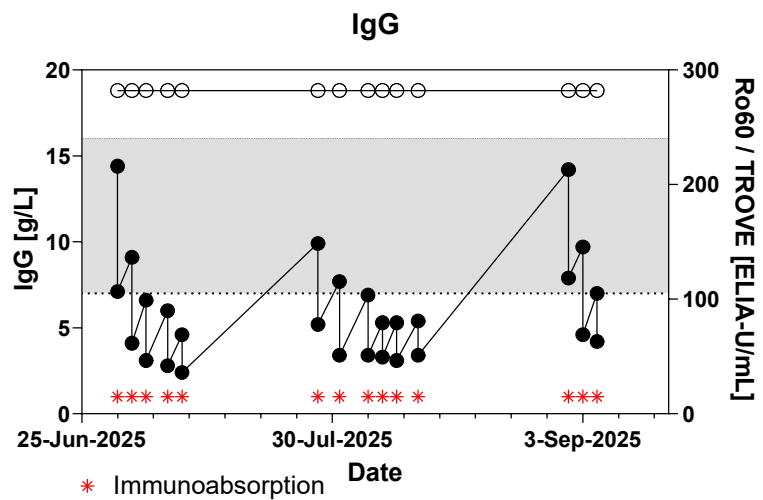
ANA >1:1280 AC-4

Ro60/TROVE2: >282 EliA U

Ro52/TRIM21: >240 EliA U

RF IgA > 214 IU/ml

**Decision to Immunoabsorb
Rituximab, Ivlg**



Neuronal Autoantibodies

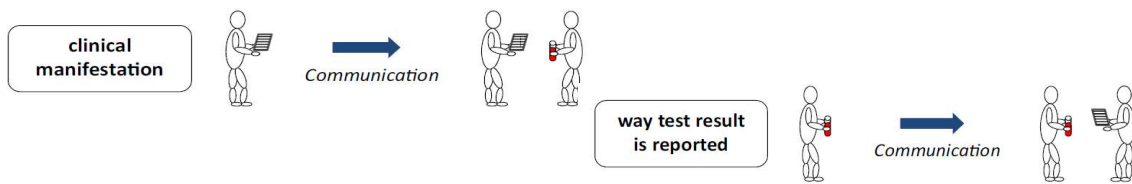
Antibody Name	Disease Associations	Recommended	May help	Limited	not useful
Anti-NMDAR	Autoimmune encephalitis		X		
Anti-LGI1	Limbic encephalitis		X		
Anti-CASPR2	Morvan syndrome, limbic encephalitis		X		
Anti-GABABR	Limbic encephalitis, SCLC			X	
Anti-AMPA	Limbic encephalitis			X	
Anti-DPPX	DPPX antibody-associated encephalitis		X		
Anti-GlyR	Stiff-person syndrome, encephalitis			X	
Anti-Hu (ANNA-1)	Paraneoplastic encephalomyelitis, sensory neuropathy				X
Anti-Yo (PCA-1)	Paraneoplastic cerebellar degeneration				X
Anti-Ri (ANNA-2)	Paraneoplastic opsoclonus-myoclonus				X
Anti-GAD65	Stiff-person syndrome, limbic encephalitis			X	
Anti-Amphiphysin	Stiff-person syndrome, paraneoplastic syndromes				X
Anti-Ma2	Paraneoplastic limbic/brainstem encephalitis				X
Anti-CV2/CRMP5	Paraneoplastic neuropathy, encephalitis				X
Anti-AQP4	NMOSD		X		
Anti-MOG	MOGAD (optic neuritis, myelitis, ADEM)	X			
Anti-AChR, MuSK, LRP4	Myasthenia gravis				X
Anti-IgLON5	Anti-IgLON5 disease				X

Summary

	Diagnosis Risk stratification	Recommended	may help limited	no evidence
dsDNA	yes	dsDNA if negative, Chromatin		
anti-C1q	Yes	anti-C1q		
ENA's	Yes			All ENA's
anti-Synthetase	yes	anti-Jo-1	other ASS-Abs	
myositis-specific	yes no for cN1A		HMGCR, SRP MDA-5	other MSA / MAA
skin antibodies	yes	Desmoglein 1, 3 BP-180		BP-230
ANCA	yes	PR3-ANCA MPO-ANCA		
aPL Antibodies	yes			aPL Antibodies
autoimmune Encephalitis	yes		NMDAR, AMPAR, Lgi-1, CASPR-2, GABAR, DPPX	
paraneoplastic	yes			All paraneoplastic Abs
NMOSD	yes	MOG	AQP-4	
Myasthenia Gravis	yes			AChR, MuSK, LRP-4, Titin

Take Home Messages

- Choose wisely → the utility of **repeated testing is very limited**
- Most autoantibodies only can be used for **diagnosis and risk stratification**
- Even though the titers may modulate during follow-up, most antibodies **do not correlate with disease activity**
- Most ANA-results do not change during follow-up



Damoiseaux, Autoimm Highlights 2020
<https://doi.org/10.1186/s13317-020-0127-3>

Questions?

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