

Multiplex approach for the confirmation and differentiation of all ANA patterns as per ICAP

Nuclear pattern (HEp-2)

Homogeneous AC-1	Speckled AC-2、4、5	Dense fine Speckled AC-2	Centromere AC-3	Discrete Nuclear dots AC-6、7	Nucleolar AC-8、9、10	Nuclear Envelope AC-11、12	Pleomorphic AC-13、14

Pattern(ICAP)	AC	Synonym	Antigen association	Disease association
Homogeneous	AC-1	Nuclear homogeneous	dsDNA、nucleosomes、histones	SLE、drug-induced lupus、juvenile idiopathic arthritis
Speckled	AC-2、4、5	Nuclear dense fine speckled Nuclear fine speckled Nuclear large/coarse speckled	hnRNP、U1RNP、Sm、SS-A/Ro (Ro60)、SS-B/La、RNA polymerase III、Mi-2、Ku	MCTD、SLE、SjS、DM、SSc/PM overlap
Dense fine speckled	AC-2	Nuclear dense fine speckled	DFS70/LEDGF	Rare in SLE、SjS、SSc
Fine speckled	AC-4	Nuclear fine speckled	SS-A/Ro(Ro60)、SS-B/La、Mi-2、TIF1γ、TIF1β、Ku、RNA helicase A、replication protein A	Limited cutaneous SSc、PBC
Large/coarse speckled	AC-5	Nuclear large/coarse speckled	hnRNA、U1RNP、Sm、RNA polymerase III	MCTD、SLE、SSc
Centromere	AC-3	Centromere	CENP-A/B(C)	Limited cutaneous SSc、PBC
Discrete nuclear dots	AC-6、7	Multiple nuclear dots Few nuclear dots		
Multiple nuclear dots	AC-6	Multiple nuclear dots	Sp100、PML proteins、MJ/NXP-2	PBC、SARD、PM/DM
Few nuclear dots	AC-7	Few nuclear dots	P80-coilin、SMN	SjS、SLE、SSc、PM、asymptomatic individuals
Nucleolar	AC-8、9、10	Homogeneous nucleolar Clumpy nucleolar Punctate nucleolar		
Nucleolar homogeneous	AC-8	Homogeneous nucleolar	PM/Scl-75、PM/Scl-100、Th/To、B23/nucleolin、No55/SC65	SSc、SSc/PM overlap
Nucleolar clumpy	AC-9	Clumpy nucleolar	U3-snoRNP/fibrillarin	SSc
Nucleolar punctate	AC-10	Punctate nucleolar	RNA polymerase I、hUBF/NOR-90	SSc、SjS
Nuclear envelope	AC-11、12	Smooth nuclear envelope Punctate nuclear envelope		
Smooth nuclear envelope	AC-11	Smooth nuclear envelope	Lamins A、B、C or lamin-associated proteins	SLE、SjS、seronegative arthritis
Punctate nuclear envelope	AC-12	Punctate nuclear envelope	Nuclear pore complex proteins(i.e.、gp210)	PBC
Pleomorphic	AC-13、14	PCNA-like CENP-F-like		
PCNA-like	AC-13	PCNA-like	PCNA	SLE、other conditions
CENP-F-like	AC-14	CENP-F-like	CENP-F	Cancer、other conditions

AC:anti-cell pattern、ANA pattern according to ICAP; DM:dermatomyositis; MCTD: mixed connective tissue disease (Sharp syndrome); PBC: primary-biliary liver cirrhosis; PM: polymyositis; SARD:systemic autoimmune rheumatic diseases; SjS: Sjögren's syndrome; SLE:systemic lupus erythematosus; SSc:systemic sclerosis