



Negative

Screening test: Indirect immunofluorescence assay (IFA) using human epithelial cells (HEp-2) and primate liver, IgG

Unclassified
AC-XX: pattern not included

Positive cell nuclei

Nuclear homogeneous			Nuclear speckled with mitotic plate		Nuclear dots	
Nuclear homogeneous SLE, AIH, JIA			Nuclear dense fine speckled SARD unlikely but not ruled out		Nuclear dots	
Fine speckled with mitot. plate SLE						
AC-1 			AC-2 		AC-3 	
Interphase: homogeneous Liver: positive cell nuclei			Interphase: dense fine speckled Liver: weak fluorescence		Interphase: 40–80 dots Liver: weak dots	
Anti-dsDNA, -nucleosomes, -histones IFA (<i>Critidia</i>), ELISA, ChLIA, EUROLINE			Anti-DfS70 ELISA, EUROLINE		Anti-Sp100, -PML EUROLINE	
AC-11/AC-12 			AC-30 		AC-6 	
Interphase: smooth, rim-accentuated Liver: nuclear membrane			Interphase: homogeneous fine speckled		Interphase: 6–20 dots Liver: strong dots	
Anti-gp210 EUROLINE			Anti-nucleo-somes* ELISA, ChLIA, EUROLINE		AC-7 	
AC-3 					Interphase: 1–6 dots	
Anti-CENP A, -CENP B ELISA, ChLIA, EUROLINE						

Positive cytoplasm

Cytoplasmic fibrillar				Rods and rings
Actin-like AIH, chronic HCV				Treated HCV infection
Filamentous fibrillar Vimentin-like Various, not typical in SARD				
Tropomyosin-like				
Fibrillar segmental Rare				
AC-15 				AC-23
Interphase: needle-like fibres Liver: positive bile ducts				Interphase: filamentous structures
Anti-F-actin IFA (VSM47 cells), EUROLINE				
AC-16 				
Interphase: fibre mesh, mitosis: droplets				
AC-16 				
Interphase: perinuclear fibre slings				
AC-17 				
Interphase: short fibre segments				

Nuclear speckled

Myriad discrete speckles	Nuclear fine speckled	Nuclear coarse speckled	PCNA-like	CENP-F-like	Homogeneous nucleolar	Clumpy nucleolar	Punctate nucleolar	Topoisomerase I-like
SjS, SSc	Anti-SS-B, (-SS-A), -Mi-2 or TIF1y* SjS, SLE, NLE, IIM	SLE, MCTD, SSc, SSc-IIM, UCTD	SLE	Malignoma, inflamm. diseases	SSc-IIM, SSc	SSc	SSc, Raynaud's, SjS, malignoma	SSc
AC-31 	AC-4 	AC-5 	AC-13 	AC-14 	AC-8 	AC-9 	AC-10 	AC-29
Interphase: many small discrete speckles	Interphase: fine speckled, differently reactive nucleoli Liver: weak fluorescence	Interphase: coarse speckled, negative nucleoli Liver: strong fluorescence	Interphase: speckled, diff. reactive, mitosis: negative	Interphase: speckled, differently reactive	Interphase: homogeneous nucleoli Liver: positive nucleoli	Interphase: irregularly speckled nucleoli	Interph.: granular nucleoli, mitosis: <5 regions (NOR)	Interphase: fine speckled, nucleolar
Anti-SS-A ELISA, ChLIA, EUROLINE	Anti-SS-B, (-SS-A), -Mi-2, -TIF1y ELISA, ChLIA, EUROLINE	Anti-Sm, -U1-nRNP, -RNA pol. III (-RP11, -RP155) ELISA, ChLIA, EUROLINE	Anti-PCNA EUROLINE		Anti-PM-Scl75, -PM-Scl100, -Th/To, -NVL EUROLINE	Anti-fibrillarin (U3-nRNP) EUROLINE	Anti-NOR90, -RNA pol. I EUROLINE	Anti-Scl-70 ELISA, ChLIA, EUROLINE

Pleomorph

Nucleolar

Cytoplasmic speckled

Golgi-like	AMA-like	Fine speckled	Dense fine speckled
Various	PBC	IIM, ILD	IIM, ILD, SLE
AC-22 	AC-21 	AC-20 	AC-19
Interphase: peri-nuclear speckled	Interphase: coarse speckled Liver: positive cytoplasm	Interphase: fine speckled	Interphase: dense fine speckled
	AMA (anti-M2, -M2-3E, -M4, -M9, ...) IFA (kidney), ELISA, ChLIA, EUROLINE	Anti-Jo-1 ELISA, ChLIA, EUROLINE	Anti-rib. P-prot., -SRP, -synthetases (PL-7, PL-12, OJ, ...) EUROLINE

Mitotic

Centrosomes	Spindle fibres	NuMA-like	Midbody	Mitotic chromosomal
Low PPV	Low PPV	Various	Low PPV	Low PPV
AC-24 	AC-25 	AC-26 	AC-27 	AC-28
Interphase: 1–2 centrosoles, mitosis: pos. spindle poles	Mitosis: positive spindle apparatus	Interph.: speckled, mitosis: positive spindle apparatus	Mitosis: positive separation zone	

Legend:

- = Routine level according to ICAP
- = Expert level according to ICAP
- = Stained chromosomes in the metaphase

The evaluation of IFA patterns on HEp-2 cells can be facilitated by combining them with liver tissue sections in BIOCHIP mosaics (e.g. IIFT Mosaic: HEp-2/Liver (Monkey), order no. FA 1510-####-1).

* The antibodies listed here are examples that produce the typical patterns shown. The list is not exhaustive.

The antibodies listed here are a selection of those for which monospecific assays are available. Negative results may occur due to antibodies that have not been tested or are unknown.

AC = anti-cell pattern

ICAP: International consensus on ANA patterns, www.ANAPatterns.org (Chan et al. Report of the first international consensus on standardized nomenclature of antinuclear antibody HEp-2 cell patterns 2014-2015, ICAP. Front Immunol. 2015 Aug 20;6:412.)

AIH: autoimmune hepatitis ALD: autoimmune liver disease HCV: hepatitis C virus HEp-2: human epithelial cells IFA: immunofluorescence assay IIM: idiopathic inflammatory myopathies ILD: interstitial liver disease JIA: juvenile idiopathic arthritis MCTD: mixed connective tissue disease, Sharp syndrome NLE: neonatal lupus erythematosus PBC: primary biliary cholangitis (cirrhosis) PPV: positive predictive value for a disease SARD: systemic autoimmune rheumatic disease SjS: Sjögren's syndrome SLE: systemic lupus erythematosus SSc: systemic sclerosis UCTD: undifferentiated connective tissue disease

Regulatory status of the products must be verified for the user's individual jurisdiction. Please contact your country representative for product availability and information.

Our recommendation for ANA diagnostics¹

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graph TD
    A[Multiple screening test: IFA with HEp-2 cells2] --> B[positive]
    A --> C[negative]
    B --> D[Monospecific confirmatory test]
    D --> E[positive]
    D --> F[negative]
    E --> G[Autoantibodies identified]
    F --> H[Autoantibodies not identified3]
  
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¹ Based on ICAP, Agmon-Levin N, et al. International recommendations for the assessment of autoantibodies to cellular antigens referred to as anti-nuclear antibodies. Ann Rheum Dis. 73(1):17-23 (2014). and international guidelines

² If there is a strong clinical suspicion of e.g. IIM or SSc

