Sistema Socio Sanitario

Regione Lombardia

Fondazione IRCCS Policlinico San Matteo

ASST Pavia

ATS Pavia

UNIVERSITÀ DI PAVIA

GRAND ROUNDS CLINICI DEL MERCOLEDÌ

con il Policlinico San Matteo

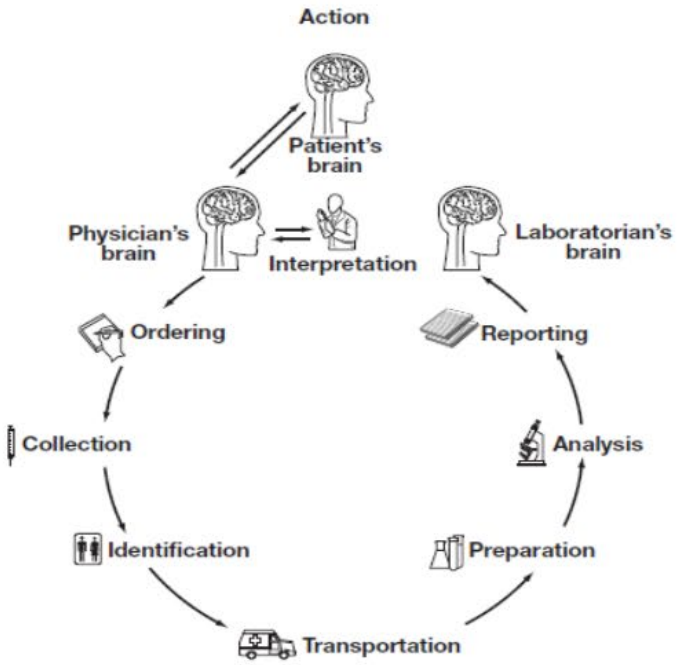
Aula Magna "C. Golgi" & WEBINAR

CASO CLINICO

La descrizione approfondita di quadri microscopici tramite immunofluorescenza indiretta aiuta l'inquadramento del paziente reumatologico

Riccardo Albertini - SC Laboratorio Analisi Chimico Cliniche
Claudia Alpini - SC Laboratorio Analisi Chimico Cliniche

Clinical Pathology Lab



- ***TOTAL PROCESS TESTING***
- ***PATIENT CENTERED MEDICINE***
- ***CLINICAL GOVERNANCE***

Patient and Clinician Experiences of Uncertainty in the Diagnostic Process

Overarching Uncertainty

PATIENTS	CLINICIANS
• Lack of transparency in the diagnostic process	• Incomplete mastery of knowledge • Incomplete science

STATE OF THE ART IN ANALYTICS IN CLINICAL PATHOLOGY

Introduction

Clinical laboratory testing is now a global activity with laboratories no longer working in isolation but as regional and national networks, and often at international levels

Problem

The lack of comparability of patient results is a major issue for laboratory medicine

Solution

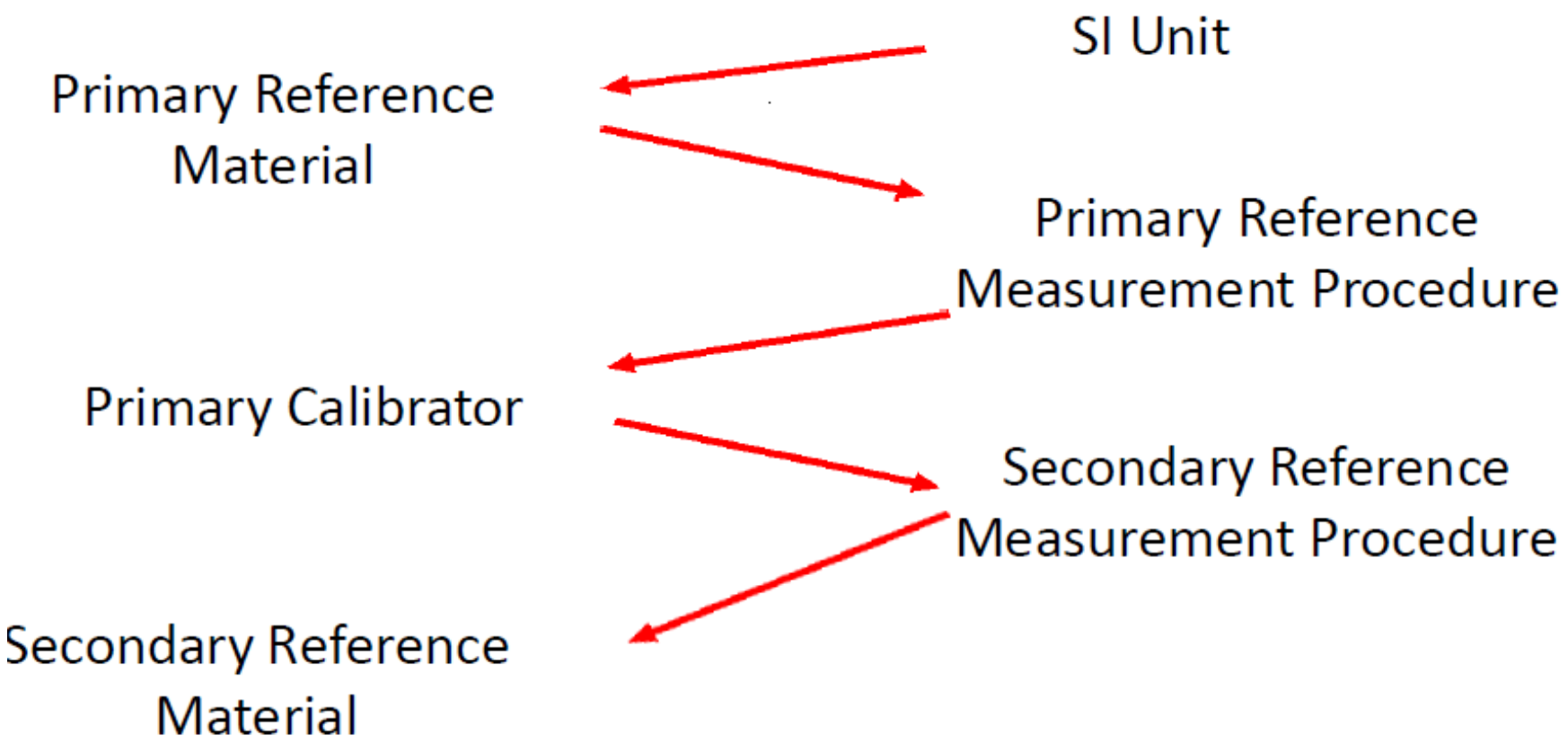
Standardization and harmonization of measurement procedure - what are the differences?

DRIVERS FOR STANDARDIZATION IN CLINICAL LAB

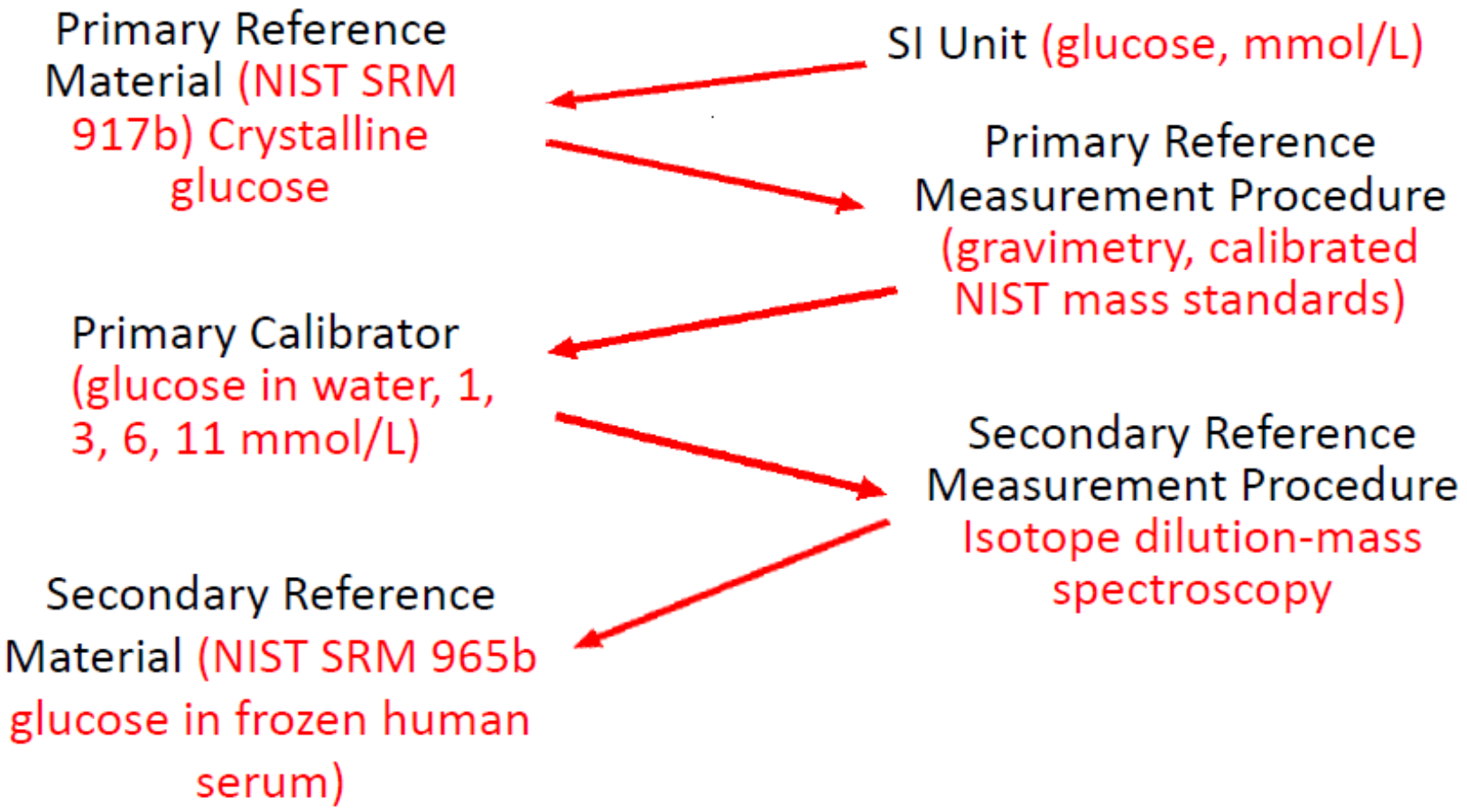
- Patient safety and treatment optimization
- Clinical practice guidelines are established to provide optimal clinical treatment
- *If different assays/labs provide different results for the same patient for the same test, clinical practice guidelines become less useful*

- Standardization: Results for clinical use are referred to a recognised standard reference material defined by International System of Units (SI) and to a reference measurement method, providing **uniform results independent of assay technique used at the single clinical lab**
- •Harmonization: Results are uniform among routine clinical measurement procedures, to a certain limit , but are **dependent on analytical techniques because no reference measurement procedure or standard reference material exist**

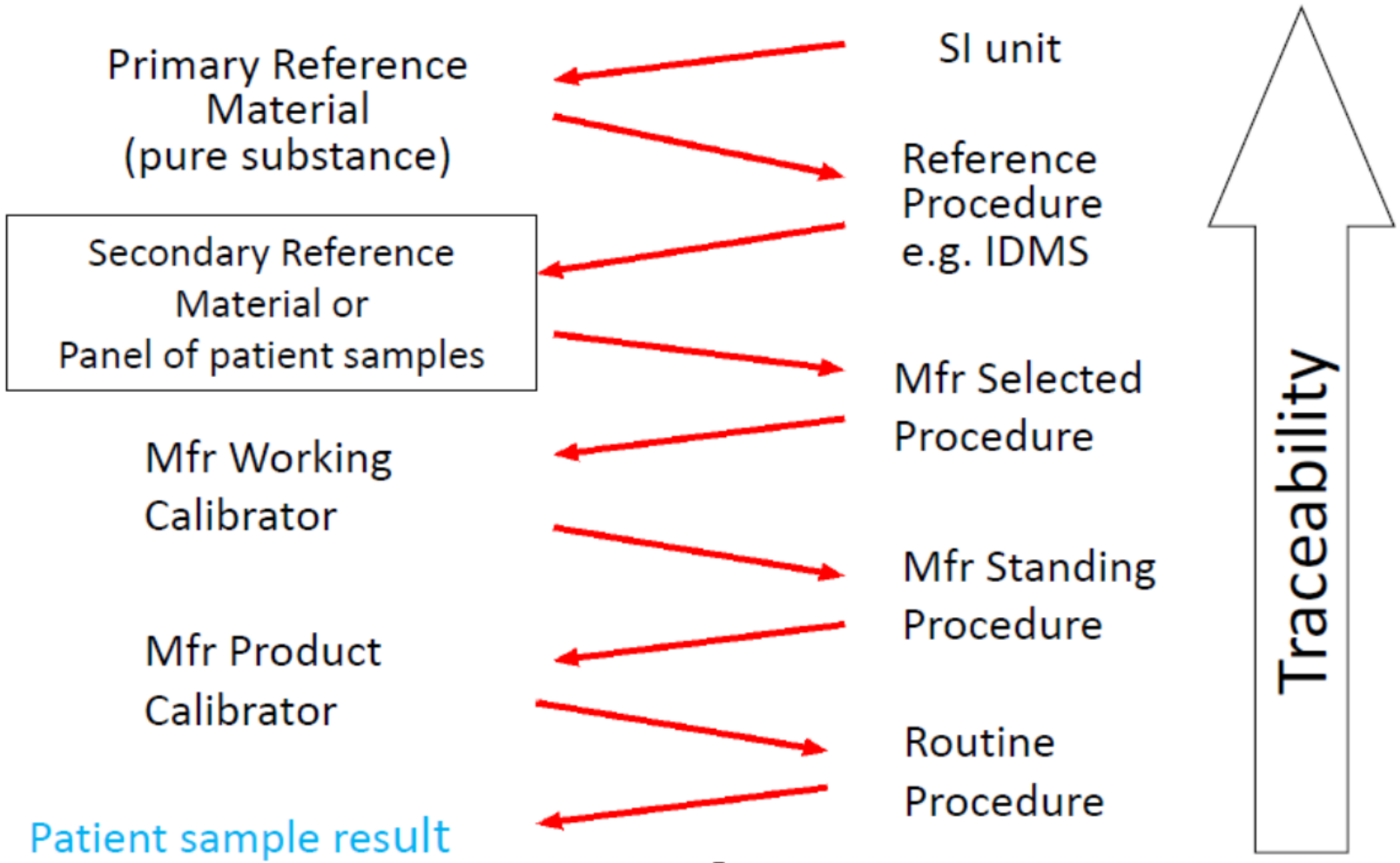
An ideal reference system



A reference system for glucose



Metrological Traceability of patient result



Standardization

Category	Reference measurement procedure	Primary (pure substance) reference material	Secondary (value assigned) reference material	Examples
1	Yes	Yes	Possible	Electrolytes, glucose, cortisol
2	Yes	No	Possible	Enzymes
3	Yes	No	No	Hemostatic factors
4	No	No	Yes	Proteins, tumor markers HIV
5	No	No	No	Proteins, EBV, VZV

Harmonization

EFFECTS OF SUCCESFUL BIOCHEMICAL STANDARDIZATION ON CLINICAL ROUTINE PRACTICE

- Monitoring and diagnosis of diabetes by HbA1c measurement and reporting to IFCC unit (mmol/mol)
- Evaluation of renal function by eGFR after creatinine standardization to CRM 967 - NIST

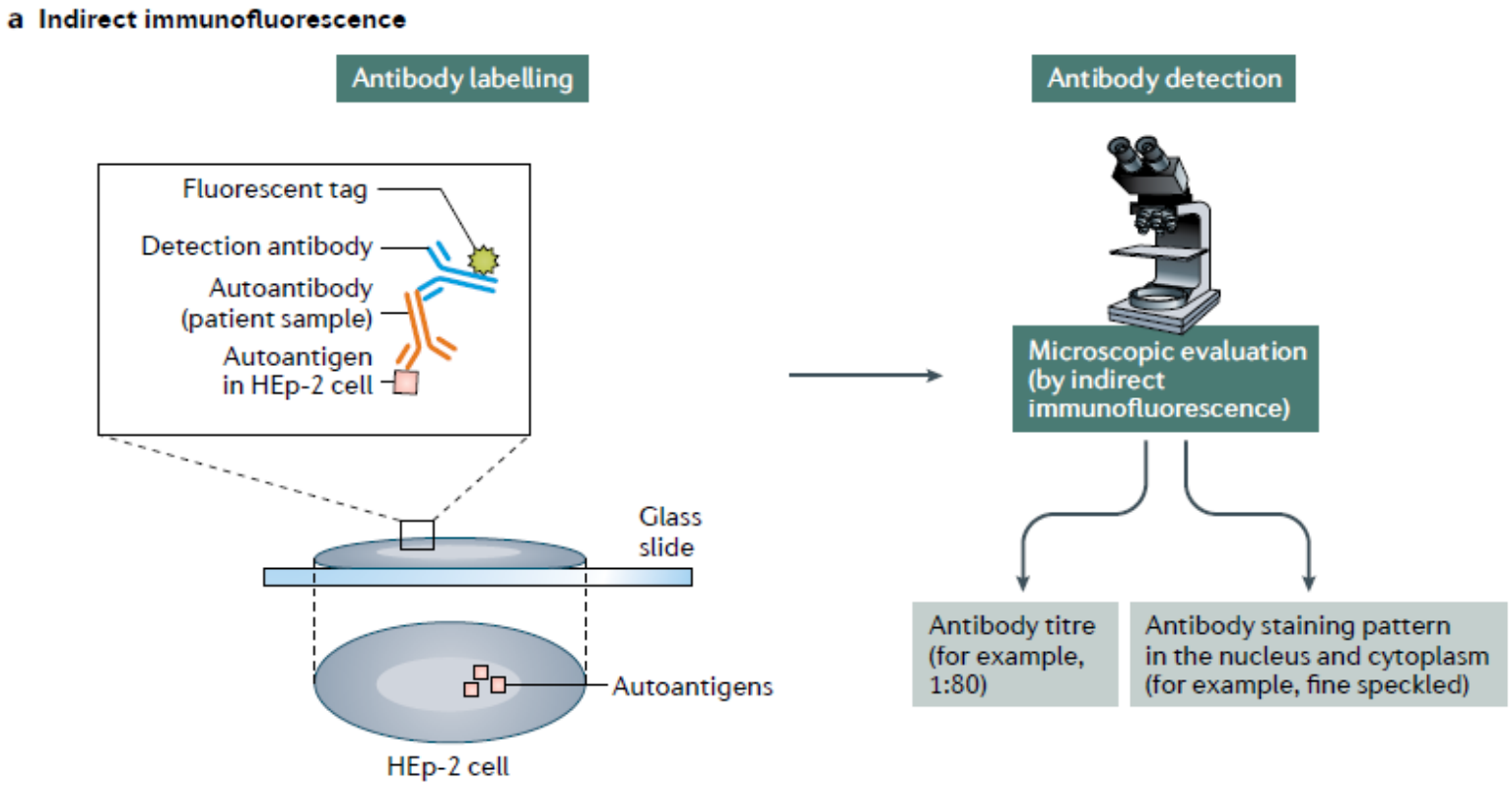
EFFECTS OF UNSUCCESFUL BIOCHEMICAL STANDARDIZATION ON CLINICAL ROUTINE PRACTICE

- Serum cardiac troponin level are method dependent as well as decisional level of cardiac injury
- Serum PTH level are method dependent

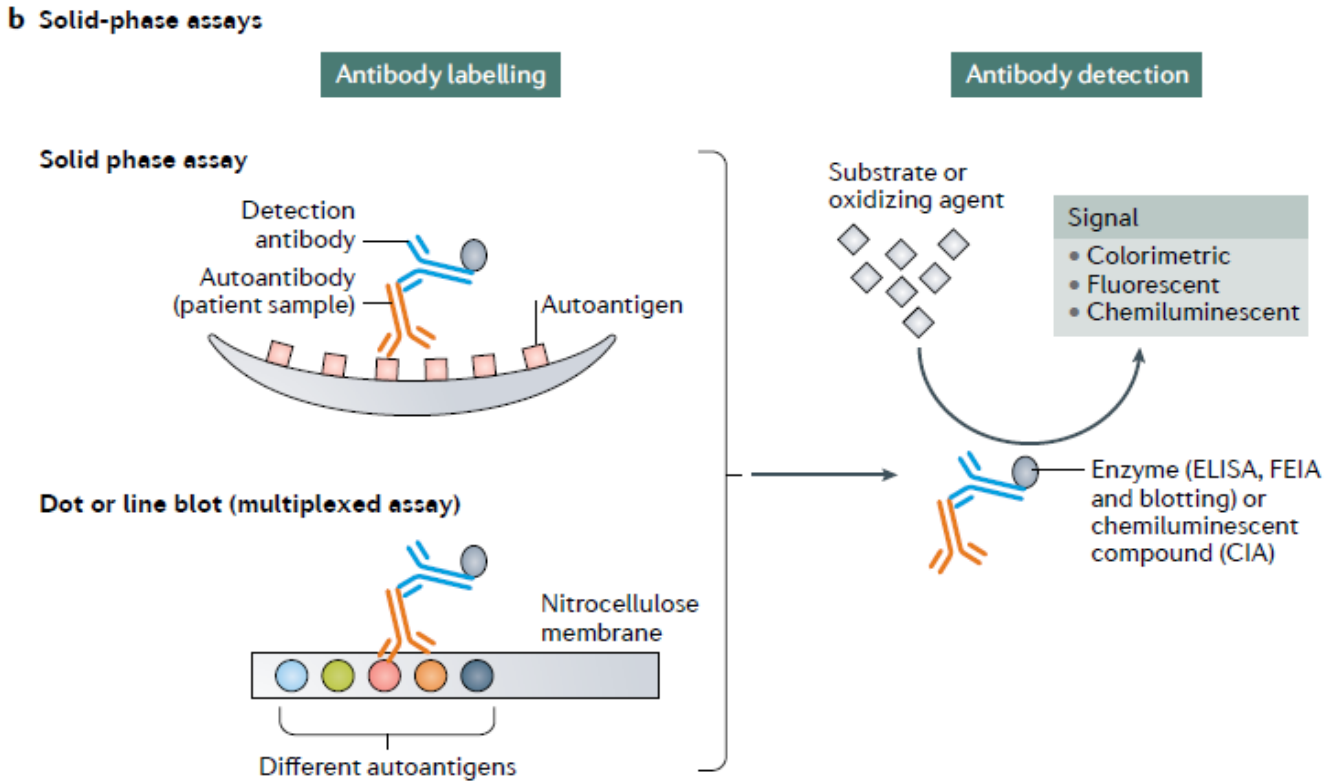
The International Consensus on ANA Patterns (ICAP) in 2021—The 6th Workshop and Current Perspectives

GRAND ROUNDS CLINICI DEL MERCOLEDÌ

Indirect Immunofluorescence outline for detection of anti-nucleo antibody in patient serum



Detection of anti-nucleo antibody in patient serum by Solid Phase Assay



Van Hoovels et al. Autoimmun Highlights (2020) 11:17
https://doi.org/10.1186/s13317-020-00139-9

Autoimmunity Highlights

ORIGINAL RESEARCH Open Access

Current laboratory and clinical practices in reporting and interpreting anti-nuclear antibody indirect immunofluorescence (ANA IIF) patterns: results of an international survey

Lieve Van Hoovels[1,2*], Sylvia Broeders[3], Edward K. L. Chan[4], Luis Andrade[5], Wilson de Melo Cruvinel[6], Jan Damoiseaux[7], Markku Viander[8], Manfred Herold[9], Wim Coucke[3], Ingmar Heijnen[10], Dimitrios Bogdanos[11], Jaime Calvo-Alén[12], Catharina Eriksson[13], Ana Kozmar[14], Liisa Kuhi[15], Carolien Bonroy[16,17], Bernard Lauwerys[18,19], Sofie Schouwers[20], Laurence Lutteri[21], Martine Vercammen[22,23], Miroslav Mayer[24], Dina Patel[25], William Egner[25], Kari Puolakka[26], Andrea Tesija-Kuna[14], Yehuda Shoenfeld[27,28], Maria José Rego de Sousa[29], Marcos Lopez Hoyos[30], Antonella Radice[31] and Xavier Bossuyt[2,32]

Characteristics of the participating laboratories and clinicians

438 laboratory professionals

248 clinicians (183 or 74% rheumatologists, for the other clinicians, specialty is not known)

50% (220/438) of the laboratory pro fessionals that responded considered their laboratory as expert-level (i.e. recognize patterns that require more expertise) and 54% (135/248) of the clinicians worked in a tertiary hospital

Table 1 Geographic distribution of the respondents with information on laboratories and clinicians showing (i) the geographic distribution of the respondents, (ii) the classification of laboratories as competent or expert and (iii) the clinical setting of the clinicians (N.a.: not applicable; Total completed: number of respondents that completed the whole survey)

Continent	Laboratory professionals				Clinicians				
	Competent	Expert	n.a	Total	Primary setting	Secundary setting	Tertiary setting	n.a	Total
Africa	6	4		10					
Asia	33	27	1	61		2	11	1	14
Australia	1	5		6			2		2
Europe	121	134	4	259	49	47	107	3	206
North-America	17	19	1	37	3	1	5	1	10
South-America	30	31	3	64	1	4	10		15
(Not assigned)	1			1	1				1
Total	209 (47.7%)	220 (50.2%)	9	438	54 (21.8%)	54 (21.8%)	135 (54.4%)	5	248
Total completed	166	186	6	358	11	11	60	2	84

Countries of origin of laboratory experts: Africa: Algeria, Egypt, Morocco, Saudi-Arabia, South-Africa, Tunisia; Asia: Azerbaijan, China, Hong Kong, India, Indonesia, Iran, Israel, Korea, Lebanon, Malaysia, Pakistan, Taiwan, Thailand, United Arab Emirates; Europe: Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Kazakhstan, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Spain, Sweden, Switzerland, Turkey, United Kingdom; North-America: Canada, Guatemala, Mexico, Nicaragua, Panama, United States of America; South-America: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Peru, Uruguay, Venezuela

Countries of origin of clinicians: Asia: China, India, Japan, Korea, Malaysia, Taiwan; Europe: Austria, Belgium, Croatia, Cyprus, Estonia, Finland, Greece, Hungary, Italy, Lithuania, Netherlands, Norway, Poland, Serbia, Slovakia, Spain, Sweden, Turkey, United Kingdom; North-America: Canada, Mexico, Dominican Republic, United States of America; South-America: Argentina, Brazil, Chile, Peru

Reporting of ANA IIF
patterns Table 2 represents an overview of (i) the frequency of reporting of the various AC patterns, (ii) the estimation whether a pattern should be classified as competent, and (iii) the clinical relevance of the various AC patterns.
For the clinical relevance score, 1 is the lowest and 5 the highest score.

Table 2 Overview of (i) the frequency of reporting of the various AC patterns, (ii) the estimation whether a pattern should be classified as competent, and (iii) the clinical relevance (1 is the lowest and 5 the highest score) of the various AC patterns. The reported range represents the minimum and maximum number of responders to the specific questions posed

		(i) Reporting (%)				(ii) Competent (%)			(iii) Clinical relevance score 1–2 (%)				(iii) Clinical relevance score 4–5 (%)			
		Laboratory			Clinicians	Laboratory			Laboratory			Clinicians	Laboratory			Clinicians
		Competent	Expert	Total		Competent	Expert	Total	Competent	Expert	Total		Competent	Expert	Total	
		n = 200–209	n = 213–220	n = 423–438	n = 170–177	n = 182–185	n = 202–208	n = 390–400	n = 175–182	n = 197–201	n = 378–388	n = 147–154	n = 175–182	n = 197–201	n = 378–388	n = 147–154
Nuclear																
Homogeneous	**AC-1**	**97.1**	**97.7**	**97.3**	**93.2**	**91.4**	**87.0**	**89.0**	**3.9**	**6.0**	**4.9**	**17.0**	**88.4**	**91.5**	**90.2**	**70.6**
Speckled	**AC-2,4,5**	**91.9**	**90.0**	**90.8**	**92.0**	**91.4**	**87.4**	**89.2**	**2.3**	**7.5**	**6.2**	**14.5**	**79.1**	**75.4**	**77.5**	**63.8**
Dense fine speckled	**AC-2**	**47.8**	**75.6**	**62.4**	**54.9**	**56.0**	**44.4**	**49.7**	**11.7**	**30.8**	**27.6**	**31.1**	**42.8**	**39.4**	**41.1**	**35.1**
Fine	AC-4	51.5	73.6	63.3	60.9	53.8	54.6	54.8	6.8	10.6	12.2	30.2	55.0	66.7	61.5	37.6
Large	AC-5	54.1	73.7	64.7	40.9	57.8	56.9	57.8	7.0	9.1	11.7	34.5	56.9	70.2	64.2	29.7
Centromere	**AC-3**	**99.0**	**98.2**	**98.4**	**90.3**	**89.7**	**87.3**	**88.4**	**0.8**	**4.5**	**3.1**	**7.8**	**93.4**	**93.0**	**93.3**	**83.8**
Discrete nuclear dots	**AC-6,7**	**85.4**	**84.9**	**85.2**	**72.4**	**87.0**	**80.8**	**83.8**	**4.1**	**8.0**	**8.3**	**29.1**	**65.2**	**63.8**	**64.5**	**43.7**
multiple	AC-6	60.8	85.4	73.8	43.6	65.8	48.8	57.1	8.1	10.6	13.5	44.6	47.8	68.2	58.3	25.0
few	AC-7	56.4	80.4	69.3	35.3	64.5	47.8	56.0	10.7	31.3	26.8	44.6	32.8	36.9	35.2	21.6
Nucleolar	**AC-8,9,10**	**94.7**	**94.0**	**94.2**	**83.9**	**90.8**	**86.3**	**88.4**	**3.4**	**6.0**	**6.5**	**17.4**	**77.2**	**80.4**	**79.2**	**61.1**
Homogeneous	AC-8	32.8	52.5	43.3	51.4	37.5	32.4	34.9	10.0	14.6	17.6	30.5	44.6	59.6	52.8	36.4
Clumpy	AC-9	20.8	46.0	34.0	18.6	25.7	20.6	23.4	11.3	15.7	19.4	47.6	38.4	60.1	50.1	23.1
Punctate	AC-10	17.8	46.0	32.9	22.8	24.0	19.6	22.1	12.6	15.7	20.8	46.3	35.2	60.6	48.9	21.1
Nuclear envelope	AC-11,12	68.1	85.3	77.0	34.3	75.4	69.6	72.3	6.3	12.1	12.5	47.6	54.2	68.7	61.9	23.8
Smooth	AC-11	19.7	49.1	35.3	19.4	26.2	20.1	23.6	13.4	23.2	25.4	51.0	29.2	47.0	38.7	17.0
Punctate	AC-12	17.8	43.1	31.4	17.1	20.8	13.2	17.5	12.8	19.2	22.8	51.0	30.3	57.6	45.0	17.7
Pleiomorphic	AC-13,14	49.5	70.7	60.6	28.1	59.2	49.5	54.4	10.9	16.1	19.3	49.0	36.9	52.8	45.3	22.4
PCNA	AC-13	46.8	83.4	65.7	45.9	39.9	32.0	36.1	9.9	14.1	17.3	32.2	44.4	60.1	53.1	38.9
CENP-F	AC-14	28.2	65.0	47.2	41.5	24.6	21.2	23.2	12.6	28.9	27.6	33.1	30.3	37.1	34.1	40.5

Table 2 (continued)

		(i) Reporting (%)				(ii) Competent (%)			(iii) Clinical relevance score 1–2 (%)				(iii) Clinical relevance score 4–5 (%)			
		Laboratory			Clinicians	Laboratory			Laboratory			Clinicians	Laboratory			Clinicians
		Competent	Expert	Total		Competent	Expert	Total	Competent	Expert	Total		Competent	Expert	Total	
		n = 200–209	n = 213–220	n = 423–438	n = 170–177	n = 182–185	n = 202–208	n = 390–400	n = 175–182	n = 197–201	n = 378–388	n = 147–154	n = 175–182	n = 197–201	n = 378–388	n = 147–154
Cytoplasmic																
Fibrillar	**AC-15,16,17**	**67.8**	**76.4**	**72.1**	**50.3**	**72.3**	**70.1**	**71.4**	**11.3**	**23.7**	**23.6**	**43.9**	**39.5**	**41.4**	**41.2**	**28.4**
Linear	AC-15	48.0	72.6	61.0	35.1	50.3	40.7	45.2	11.5	15.7	19.7	47.3	44.1	56.6	50.9	22.3
Filamentous	AC-16	32.2	54.8	44.2	28.7	31.7	28.1	30.0	18.7	44.9	42.2	49.3	18.3	21.7	20.6	16.9
Segmental	AC-17	21.5	40.2	31.2	18.7	26.8	22.2	24.7	17.7	49.7	43.7	53.1	20.0	17.8	19.3	13.6
Speckled	**AC-18,19,20**	**67.8**	**81.3**	**74.8**	**52.0**	**72.8**	**73.5**	**73.2**	**7.3**	**19.7**	**17.5**	**47.0**	**50.0**	**50.0**	**50.3**	**28.2**
Discrete dots	AC-18	34.8	71.0	53.8	25.1	41.0	36.5	38.7	16.6	42.1	38.4	53.7	25.4	24.4	25.3	18.4
Dense fine speckled	AC-19	35.6	67.4	52.3	37.1	39.3	32.0	35.6	11.8	19.7	22.0	45.3	40.7	56.1	49.1	20.3
Fine speckled	AC-20	38.1	74.9	57.3	42.4	38.8	34.0	36.2	9.4	18.2	18.9	44.2	44.1	56.6	50.7	23.8
Reticular	**AC-21**	**65.0**	**89.9**	**78.1**	**49.4**	**72.1**	**75.0**	**73.8**	**5.5**	**6.6**	**8.9**	**39.6**	**72.3**	**84.8**	**79.3**	**38.9**
Polar / Golgi-like	**AC-22**	**71.4**	**87.6**	**79.5**	**42.1**	**67.2**	**63.5**	**65.3**	**17.6**	**43.9**	**40.4**	**53.4**	**33.9**	**21.7**	**27.3**	**23.6**
Rods and rings	**AC-23**	**52.5**	**72.8**	**62.7**	**27.1**	**60.7**	**53.7**	**56.9**	**20.8**	**52.3**	**47.9**	**51.7**	**24.3**	**18.8**	**21.3**	**23.8**
Mitotic																
Centrosome	AC-24	61.1	78.6	70.3	43.5	57.1	48.5	52.8	18.4	54.3	46.6	43.9	23.2	20.3	21.6	30.4
Spindle fibers	AC-25	61.6	82.7	72.5	31.8	57.9	46.6	52.2	18.3	51.5	45.0	48.6	23.6	19.7	21.5	20.3
NuMA	AC-26	44.8	75.9	61.0	31.0	44.0	32.0	38.1	16.0	37.9	35.7	52.3	26.0	32.3	29.7	24.2
Intercellular bridge	AC-27	45.3	74.4	60.2	24.1	48.4	39.4	43.7	20.5	56.9	50.0	54.4	19.8	17.3	18.7	13.6
Mitotic chromosomal	AC-28	24.8	47.9	36.8	24.1	27.5	24.1	25.8	21.6	57.4	51.3	56.5	16.4	13.2	15.0	15.0

Nicoletta Gallo, Giulia Musso* and Mario Plebani

A cost-effective assessment for the combination of indirect immunofluorescence and solid-phase assay in ANA-screening

https://doi.org/10.1515/cclm-2025-0170
Received February 12, 2025; accepted April 30, 2025;
published online May 22, 2025

carefully evaluate its diagnostic algorithm for ANA testing on the volume and type of requests, eventually designing new cost-effective reimbursement models based on patients

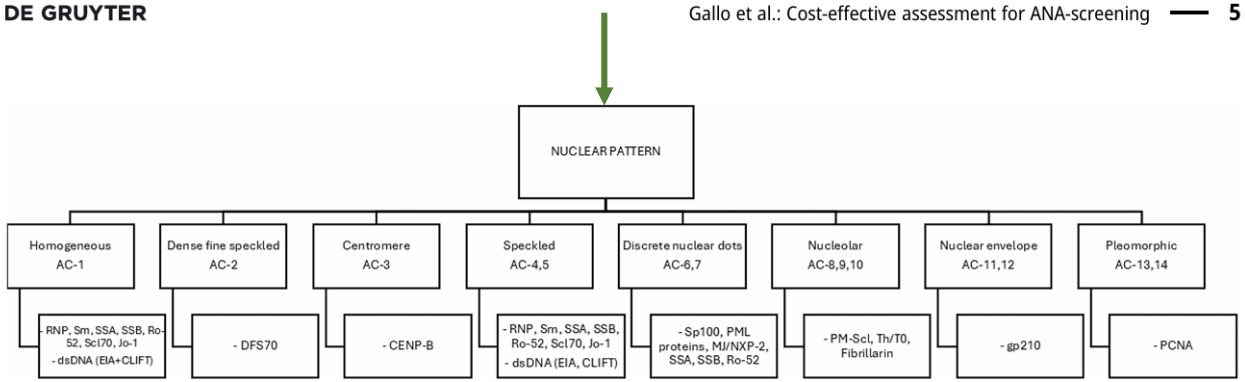


Figure 1: ANA-IIF+/CTD Screen+ confirm algorithm to identify the antibody specificity based on IIF pattern with SPA; anti-dsDNA should also be tested with CLIFT. Modified from ICAP https://www.anapatterns.org/trees-full.php. EIA, enzyme immuno assay; CLIFT, crithidia luciliae immunofluorescence test.

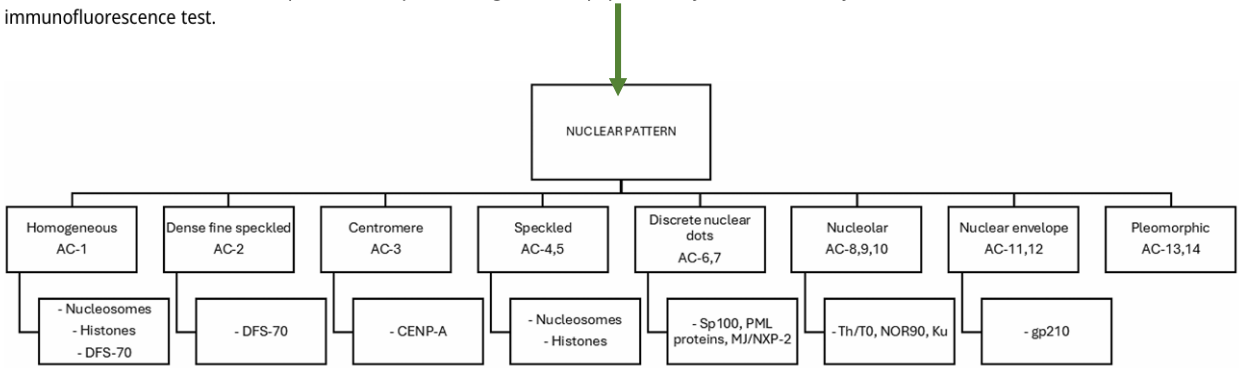


Figure 2: ANA-IIF+/CTD Screen– confirm algorithm to identify a potential specific antibody towards antigens not included in the CTD Screen with other SPA. Modified from ICAP https://www.anapatterns.org/trees-full.php. EIA, enzyme immuno assay; CLIFT, crithidia luciliae immunofluorescence test.

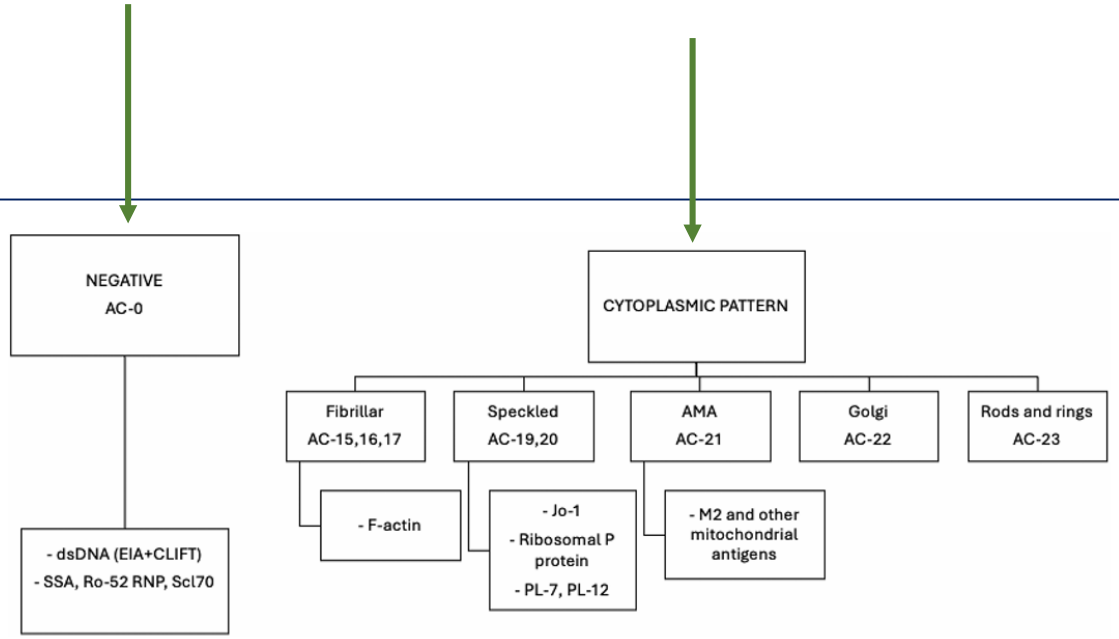


Figure 3: ANA-IIF–/CTD Screen+ confirm algorithm for anti-dsDNA and other SPA for cytoplasmic pattern. Modified from ICAP https://www.anapatterns.org/trees-full.php. EIA, enzyme immuno assay; CLIFT, crithidia luciliae immunofluorescence test; SMA, smooth muscle antibody.

La Rivista Italiana della Medicina di Laboratorio 2022 Giugno;18(2):77-84
DOI: 10.23736/S1825-859X.22.00141-4

RASSEGNA

Il test ANA: cosa è necessario sapere per interpretare correttamente i risultati

The ANA test: what you need to know to correctly interpret the results

Luigi CINQUANTA [1] *, Nicola BIZZARO [2, 3]

[1]IRCCS SYNLAB SDN, Napoli, Italia; [2]Laboratorio di Patologia Clinica, Ospedale S. Antonio, Tolmezzo, Udine, Italia; [3]Azienda Sanitaria Universitaria Integrata, Udine, Italia

*Autore di contatto: Luigi Cinquanta, IRCCS SYNLAB SDN, Napoli, Italia. E-mail: luigi.cinquanta@alice.it

- Il test ANA IFI HEp-2
- Potenziale diagnostico del test ANA IFI HEp-2 e test di approfondimento
- Criticità del metodo IFI HEp-2 e sviluppo di nuove tecnologie per la ricerca degli ANA
- Un nuovo paradigma per il test ANA:
- *«gli ANA stanno diventando un test di screening piuttosto che un test diagnostico di conferma.»*
- *«non devono farci trascurare l'esistenza di pazienti che possono avere positività sierologica per gli ANA anni prima della diagnosi clinica di malattia autoimmune, uno stato noto come "pre-autoimmunità".*

TABELLA I.—*Gli autoanticorpi anti-antigeni cellulari riconosciuti come criteri classificativi e/o diagnostici nelle malattie autoimmuni ANA positive.*

Malattia autoimmune ANA positiva	Autoanticorpi	Inclusione nei criteri diagnostici e/o classificativi
Lupus eritematoso sistemico	ANA*, dsDNA, Sm	2019 ACR-EULAR criteri classificativi
Sclerosi sistemica	Centromero, topoisomerasi I RNA polimerasi III	2013 ACR-EULAR criteri classificativi
Sindrome di Sjögren	Ro60	2016 ACR-EULAR criteri classificativi
Malattia mista del tessuto connettivo	U_1RNP	1987 criteri classificativi di Kasukawa
Miopatia infiammatoria autoimmune	Jo1	2017 ACR-EULAR criteri classificativi
Artrite idiopatica giovanile	ANA (diversi pattern)	2019 documento di consenso dei pediatri reumatologi
Epatiti autoimmuni	F-actina	2004 documento di consenso IAIHG
Colangite biliare primitiva	M2, gp210 sp100	2009 linea guida AASLD

*Il risultato ANA positivo ricercato con test IFI HEp-2 (titolo 1:80) o con metodologia equivalente costituisce criterio d'entrata per il LES.

© 2022 EDIZIONI MINERVA MEDICA
Online version at https://www.minervamedica.it
La Rivista Italiana della Medicina di Laboratorio 2022 Giugno;18(2):77-84
DOI: 10.23736/S1825-859X.22.00141-4

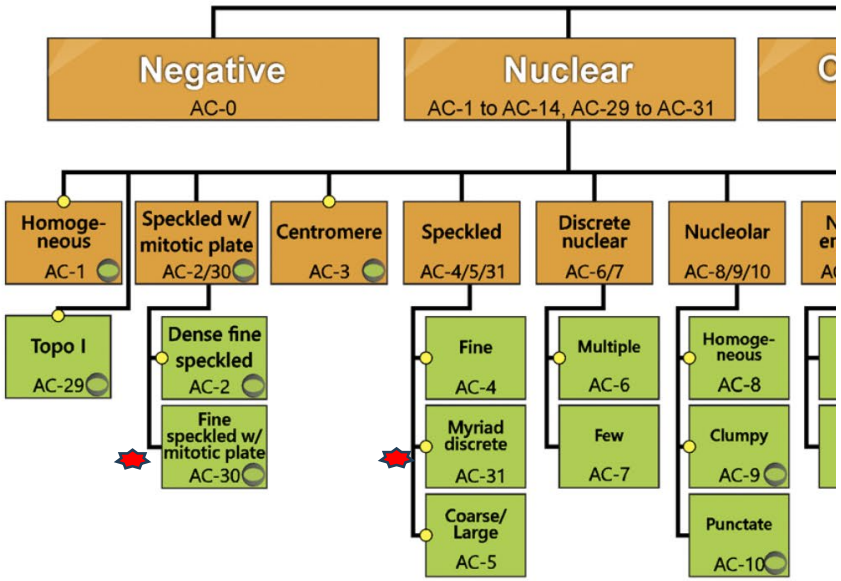
Il titolo e il pattern del test IFI HEp-2, associati ai risultati dei nuovi test multiparametrici per la ricerca degli anti corpi anti-antigeni cellulari specifici, possono guidare la scelta di ulteriori indagini diagnostiche (biopsia, imaging, ecc.), rinvii a specialisti appropriati e servire come guida al trattamento

ICAP
INTERNATIONAL CONSENSUS ON ANA PATTERNS

English | Português | Español | Italiano | Dutch | Deutsch | 简体中文 | 繁體中文 | Français | Türkçe | Русский | Bosanski | Magyar | Ελληνικα | 한국어 | 日本語 | ไทย | Українська

Nomenclature and Classification Tree

HEp-2 cell patterns



Competent-level
Expert-level report
Metaphase plate is stained
Reference materials available at www.AutoAb.org
*Classification tree updated February 2024

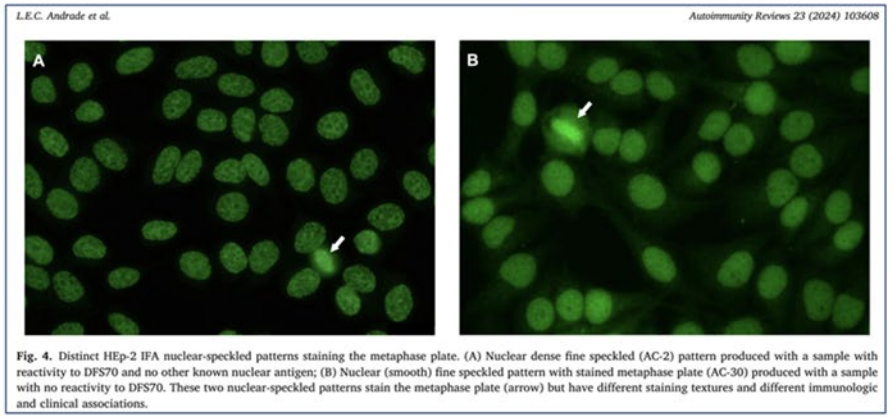


Fig. 4. Distinct HEp-2 IFA nuclear-speckled patterns staining the metaphase plate. (A) Nuclear dense fine speckled (AC-2) pattern produced with a sample with reactivity to DFS70 and no other known nuclear antigen; (B) Nuclear (smooth) fine speckled pattern with stained metaphase plate (AC-30) produced with a sample with no reactivity to DFS70. These two nuclear-speckled patterns stain the metaphase plate (arrow) but have different staining textures and different immunologic and clinical associations.

AC-30

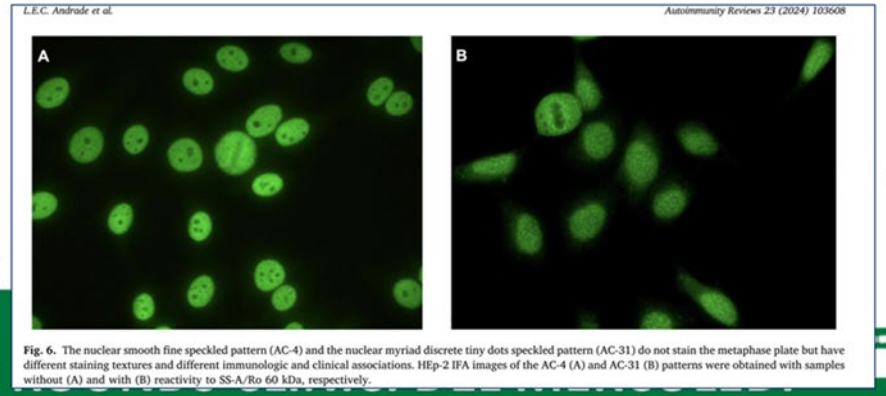


Fig. 6. The nuclear smooth fine speckled pattern (AC-4) and the nuclear myriad discrete tiny dots speckled pattern (AC-31) do not stain the metaphase plate but have different staining textures and different immunologic and clinical associations. HEp-2 IFA images of the AC-4 (A) and AC-31 (B) patterns were obtained with samples without (A) and with (B) reactivity to SS-A/Ro 60 kDa, respectively.

AC-31

Autoimmunity Reviews

journal homepage: www.elsevier.com/locate/autrev

Reflecting on a decade of the international consensus on ANA patterns (ICAP): Accomplishments and challenges from the perspective of the 7th ICAP workshop

Luis E.C. Andrade [a,b,*], Werner Klotz [c], Manfred He
Maria Infantino [f], Orlando G. Carballo [g,h], May Cho
Ignacio Garcia-De La Torre [k], Minoru Satoh [l,m], Paul
Karsten Conrad [p], Wilson de Melo Cruvinel [n], Edwa

..... The challenge of characterizing rare patterns could be addressed by the establishment of cooperative multicenter projects that allow the analysis of adequate numbers of serum samples with consistent clinical data, as well as the use of cutting-edge methodology (e.g., immunoprecipitation- mass spectroscopy: IP-MS) for the identification of the target auto antigens [38].

..... In response to these challenges, the 2019 ICAP Executive launched the Clinical and Immunologic Characterization of HEp-2 IFA Patterns **(HEp-2 CIC project)**, which comprises three branches :

1) Determinare le caratteristiche operative e le frequenze dei pattern ICAP riportate dai lab. Clinici in tutto il mondo
2 e 3) sono interconnessi, volti ad evidenziare associazioni cliniche e caratterizzazione della specificità antigenica di pattern ICAP selezionati

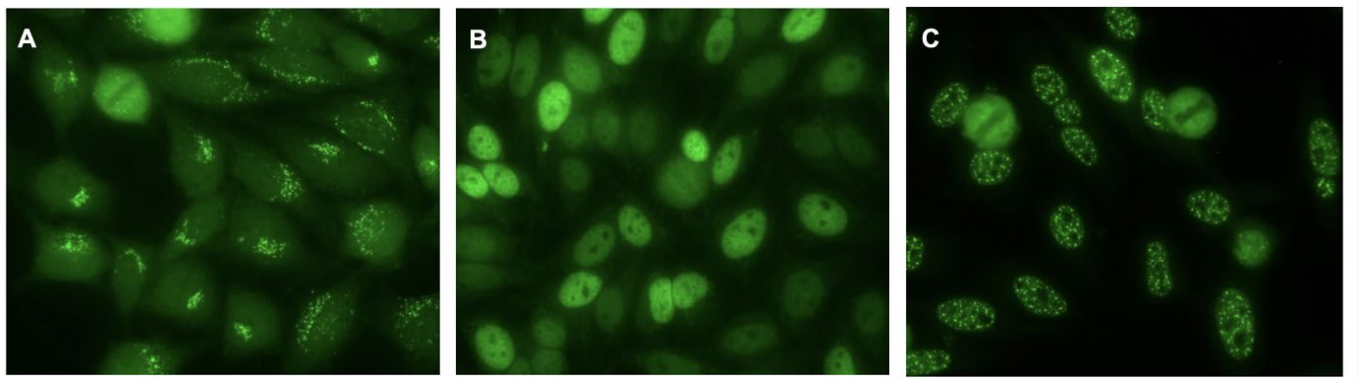


Fig. 2. HEp-2 IFA patterns selected for the clinical and immunologic characterization in the multicenter HEp-2 CIC project. (A) Cytoplasmic Golgi-like (AC-22) pattern; (B) Nuclear SG2NA AC-XX pattern; (C) Nuclear matrix AC-XX pattern.

CASO CLINICO

I.V. Donna 68 aa

<u>In anamnesi:</u>

- menopausa 53 aa
- Nessuna Ter. Ormon. Sost.
- No fumo nessuna alterazione trombofilica
- Obesità e ipertensione lieve in trattamento farmacologico
- 1 gravidanza no aborti
- Appendicectomia in età adolescenziale
- IBS

Giunge all'osservazione CLINICI REUMATOLOGI

Comparsa di F. di Raynaud, (insorto a circa 60anni)
inizialmente monofasico e nell'ultimo anno divenuto trifasico,
interessante dita delle mani e dei piedi(importante mesi
invernali e associato artralgie)

Prurito diffuso e secchezza della cute ma non Sindrome Sicca

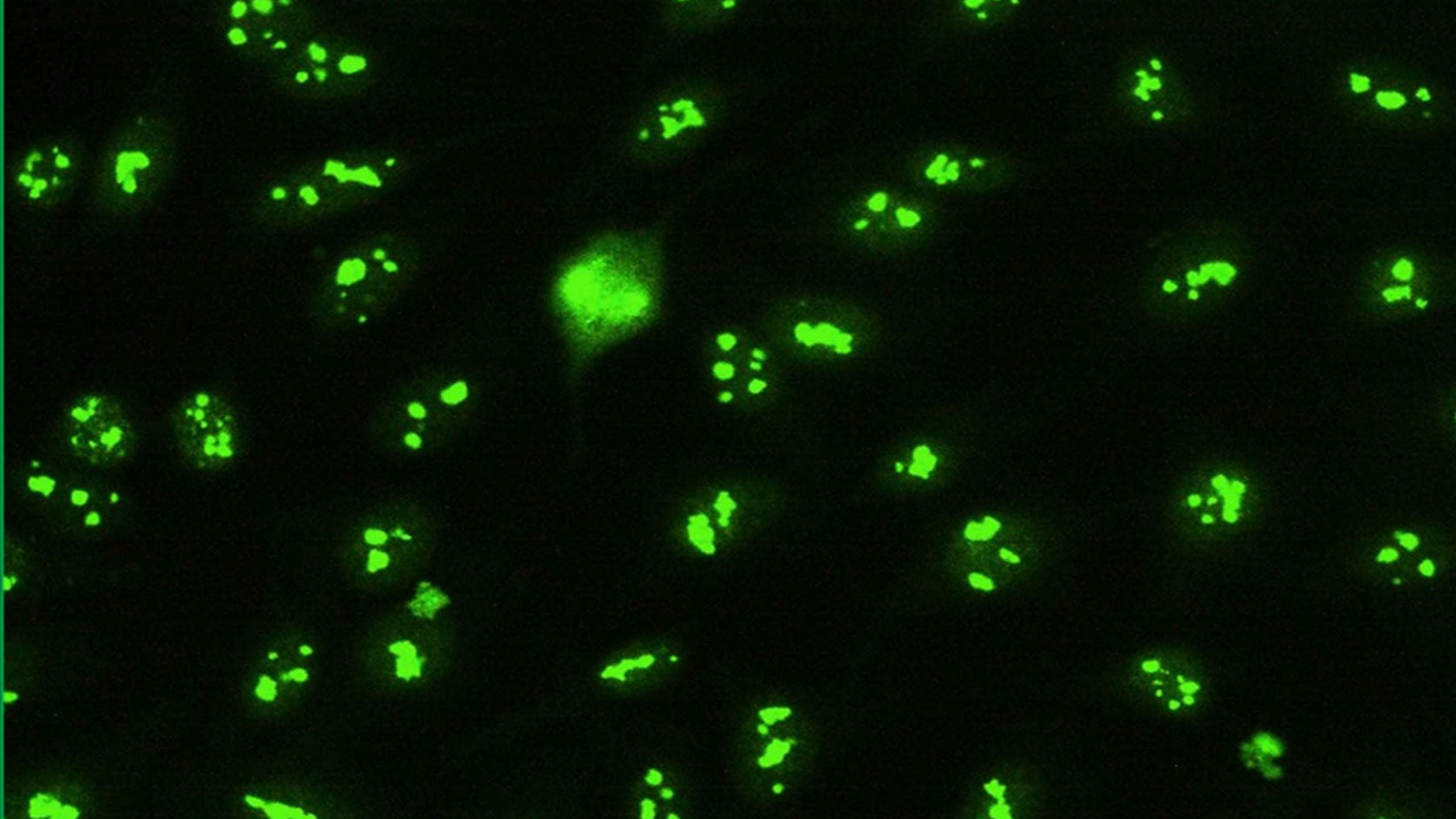
Pregressi sintomi di reflusso, non disfagia ne dispnea

VALUTAZIONE REUMATOLOGICA

Non si evidenziano ulcere acrali alle dita delle mani e dei piedi
Non sclerodattilia ma lieve aspetto puffy delle dita
Test di Schirmer negativo
Capillaroscopia evidenzia alterazioni aspecifiche

VENGONO :

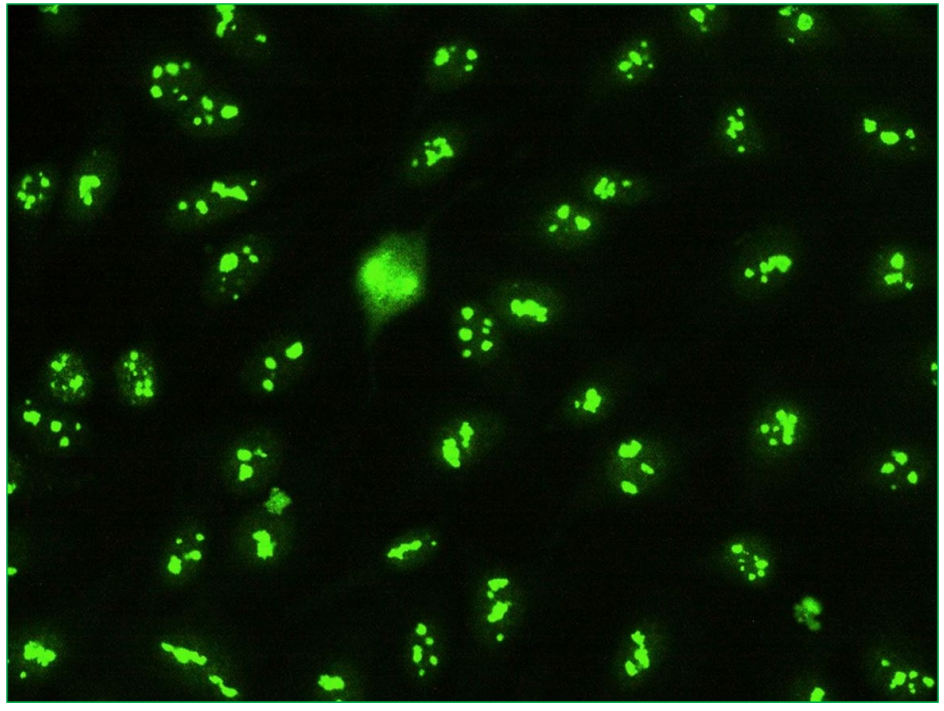
richiesti esami ematochimici + profilo autoimmune completo



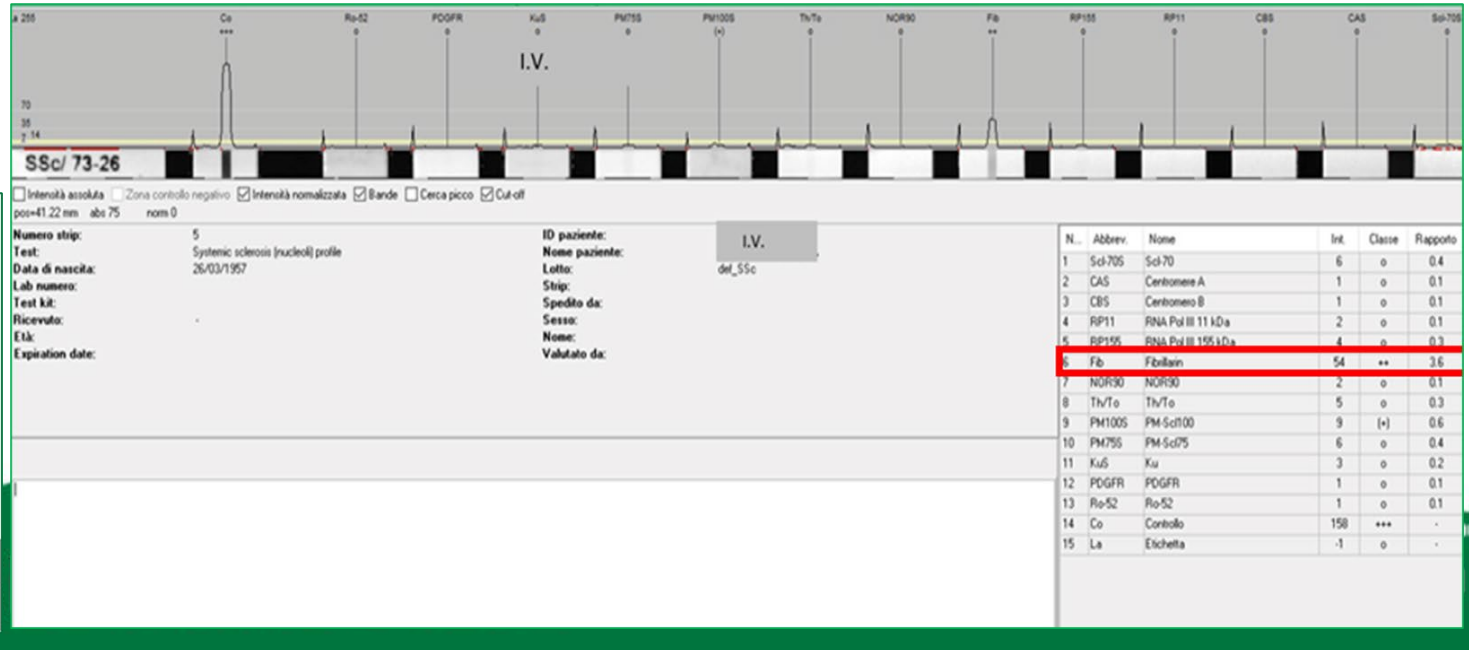
AUTOIMMUNITA'

S-Ab anti NUCLEO IFI (HEp-2)	Positivo Nucleolare Clumpy (AC-9)* 1:640

* ICAP International Consensus



S-Anticorpi associati antigeni rari sclerodermia	Positivo
SSA/Ro 52 KD	Negativo
Scl70 DNA Topoisomerasi	Negativo
Rec. fattore crescita derivato piastrinico: PDGFR	Negativo
Proteina non istonica DNA-legante: Ku	Negativo
Esoribonucleasi nucleolare 75 KD: Pm/Scl75	Negativo
Esoribonucleasi nucleolare 100 KD: Pm/Scl100	Negativo
Complesso proteico 7-2 RNP/7-2-RNA: Th-To	Negativo
RNA Pol I trascrizione nucleol. (hUBF) 90: NOR90	Negativo
U3snoRNP 34 KD: fibrillarina	Positivo
Subunità della RNA-Pol III: RP155	Negativo
Subunità della RNA-Pol III: RP11	Negativo
Proteina centromerica 17 KD: CENP-B	Negativo
Proteina centromerica 17 KD: CENP-A	Negativo



Id paziente:		**Id richiesta:**	impelluso
Data di nascita:		**Data richiesta:**	30/05/2025
Sesso:		**Id Richiedente:**	
Diagnosi:			

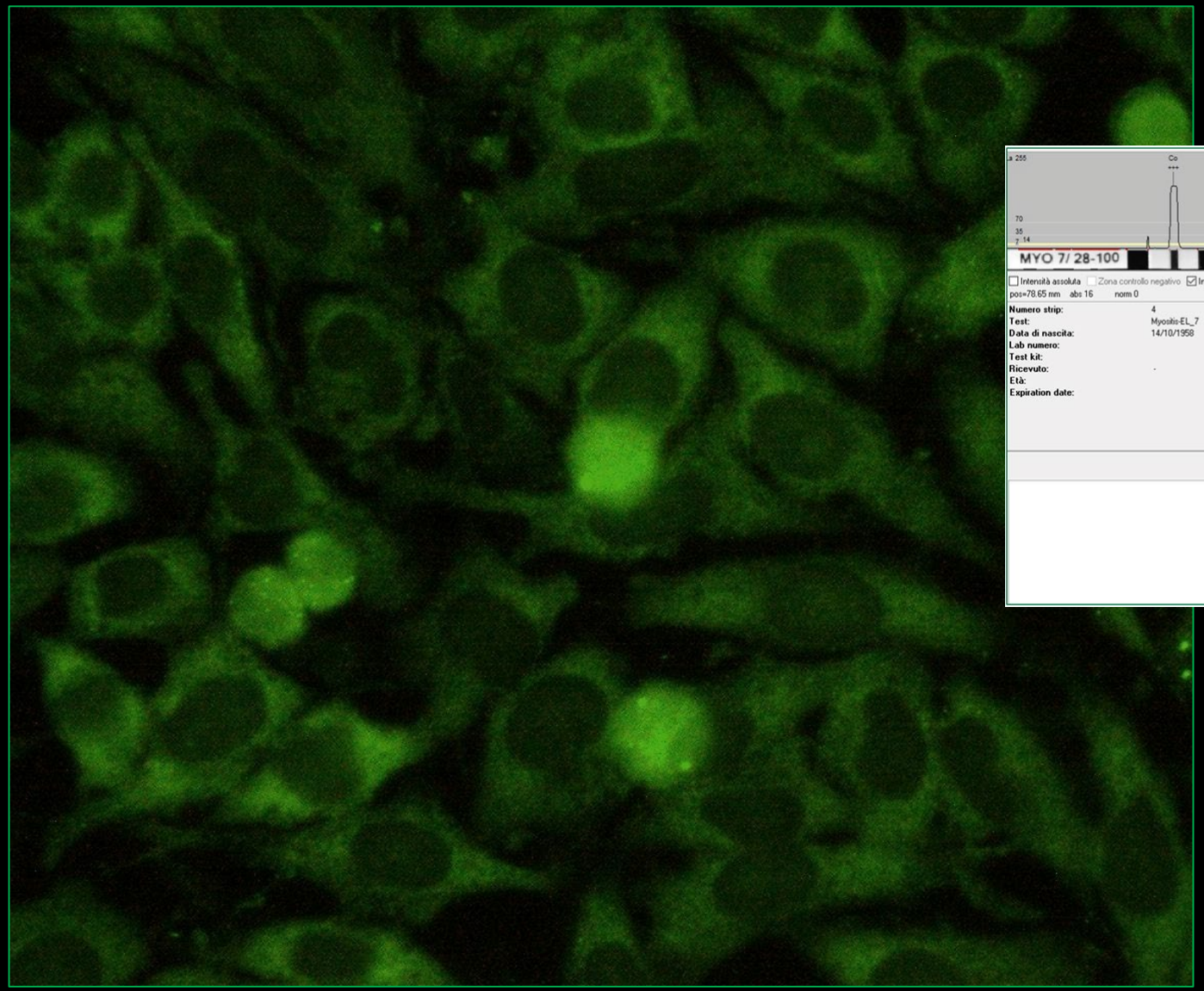
EliA IgG

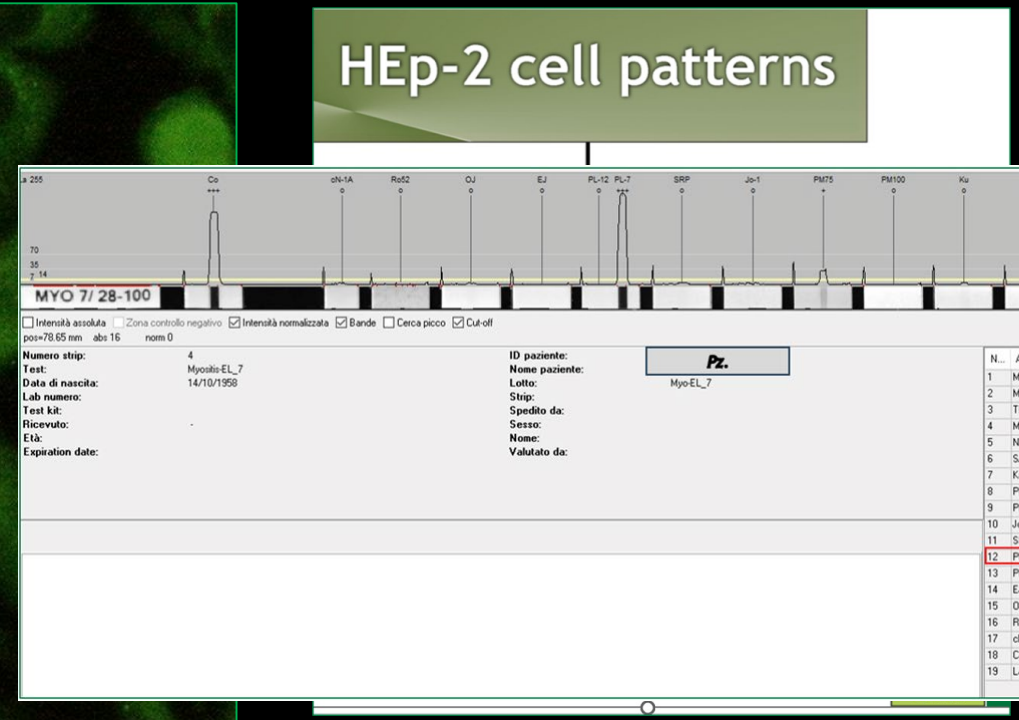
Nome esame	Nome esteso esame	Conc	Cl.
fib	EliA Fibrillarin	138 U/ml	Positivo

Test	Unità	Negativo	Dubbio	Positivo
EliA Fibrillarin	EliA U/ml	< 7	7 – 10	> 10

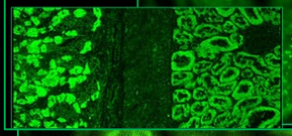
Pattern ANA in IFI + stretta collaborazione con Clinici di riferimento

FONDAMENTALE per un corretto e tempestivo inquadramento del paziente





CENTROMERICO e CITOPLASMATICO RETICOLARE/AMA
AC-3 e AC-21



CITOPLASMATICO GRANULARE FINE E DENSO
(RIBOSOMA)
AC-19

CITOPLASMATICO GRANULARE FINE E DENSO
(PL7-PL12)
AC-19

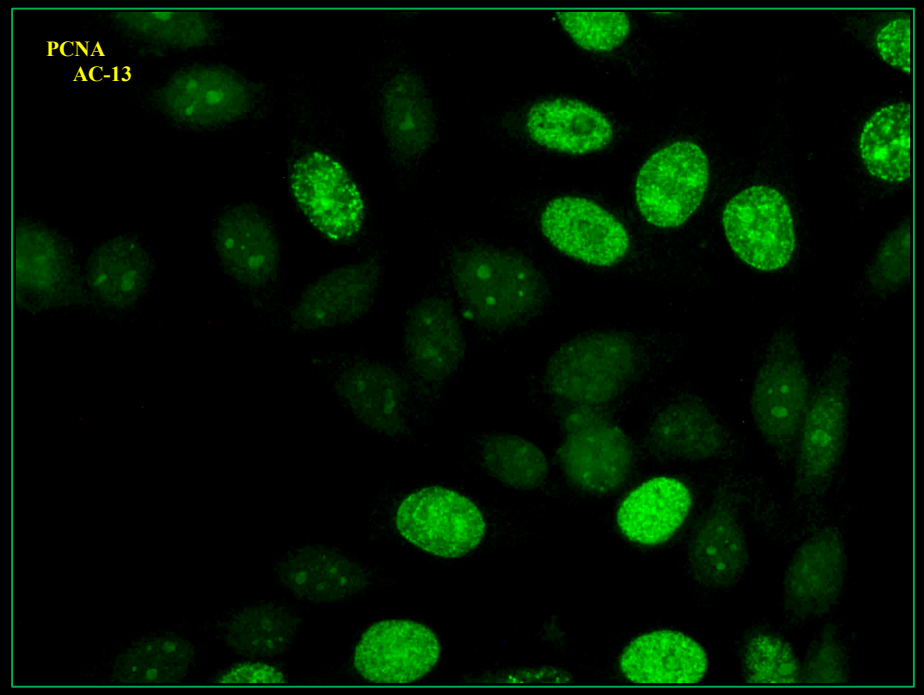
FILAMENTO FIBRILLARE CITOPLASMATICO
AC-16

CITOPLASMATICO GRANULARE
FINE e DENSO
(RETICOLO ENDOPLASMATICO)
AC-19

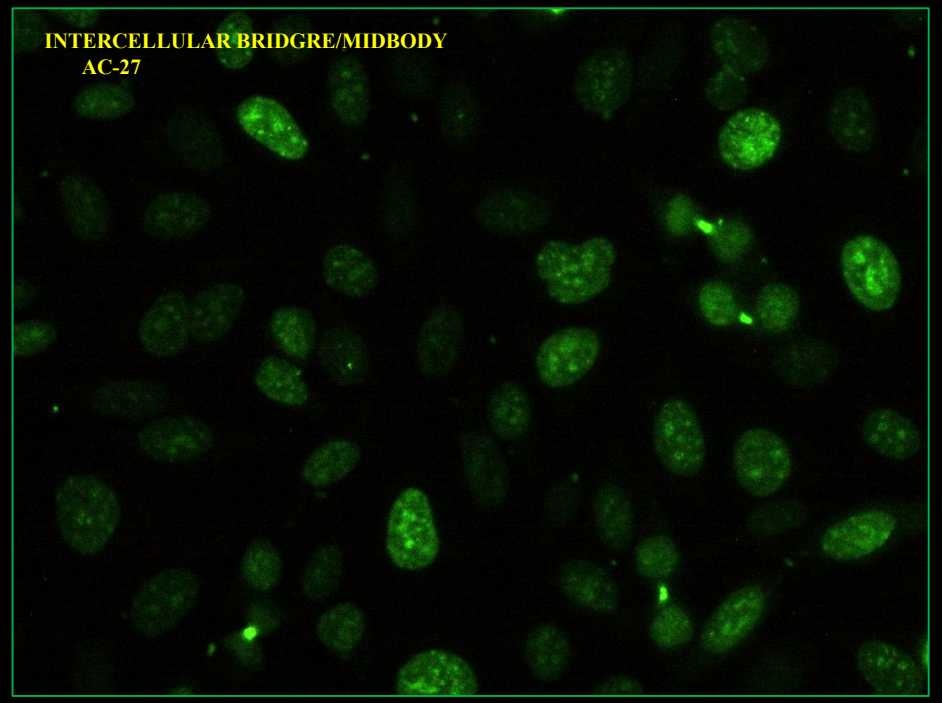
POLARE//GOLGI
AC-22

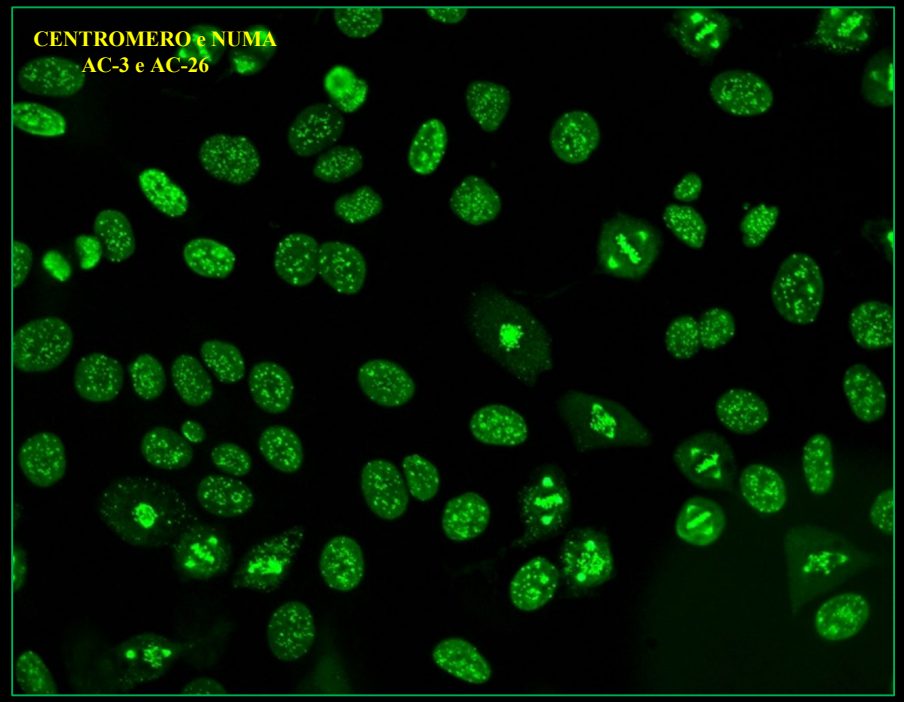
CITOPLASMATICO A PICCOLI GRANULI
(LISOSOM ed ENDOSOMA)
AC-19

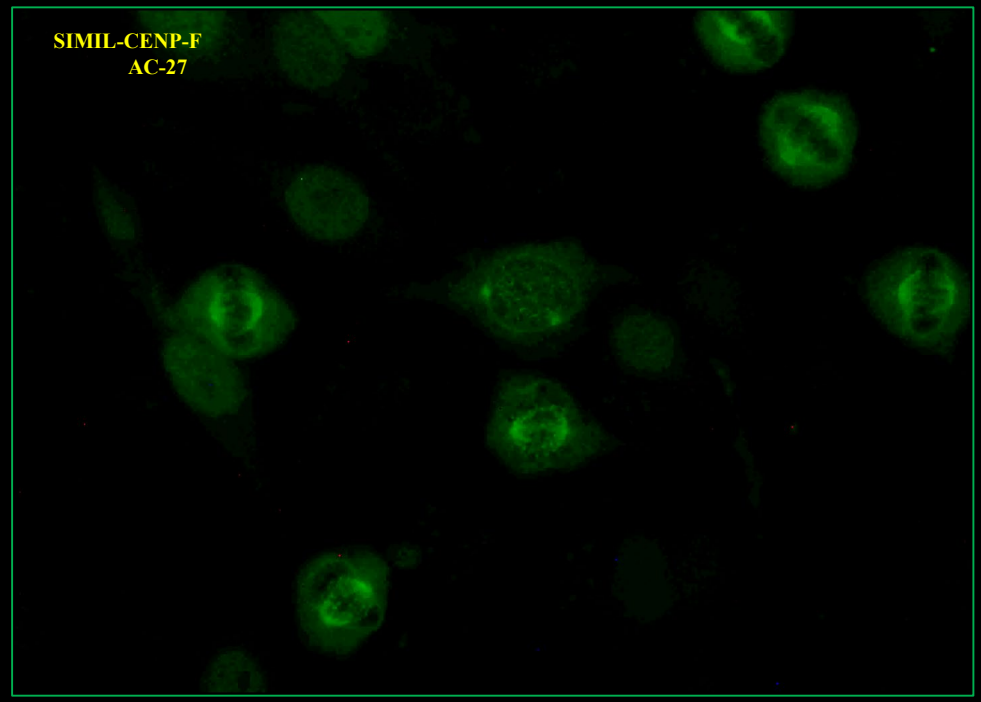
CITOPLASMATICO A SEGMENTI FIBRILLARI
(VINCULINA)
AC-17

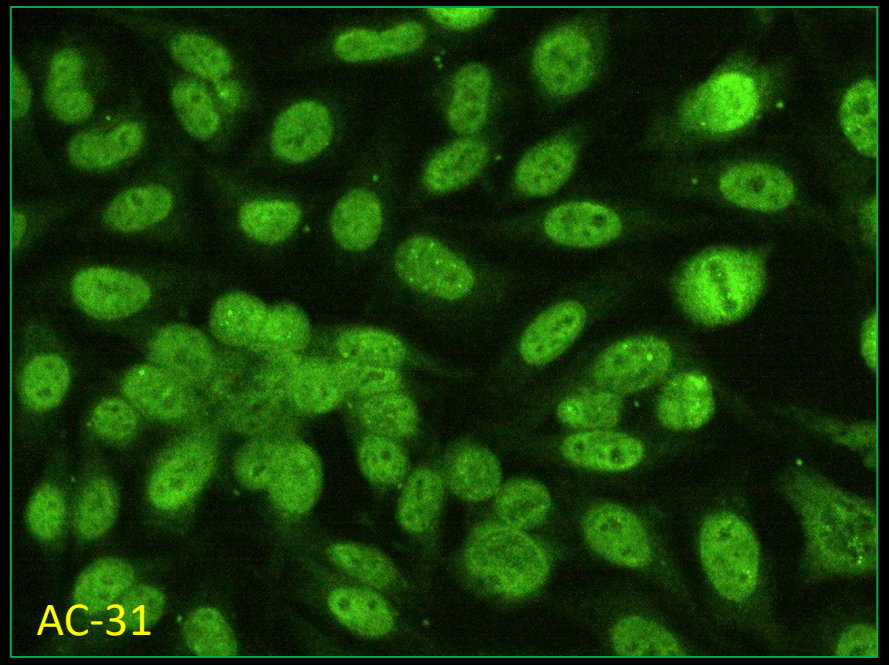


PLEOMORPHIC
AND MITOTIC







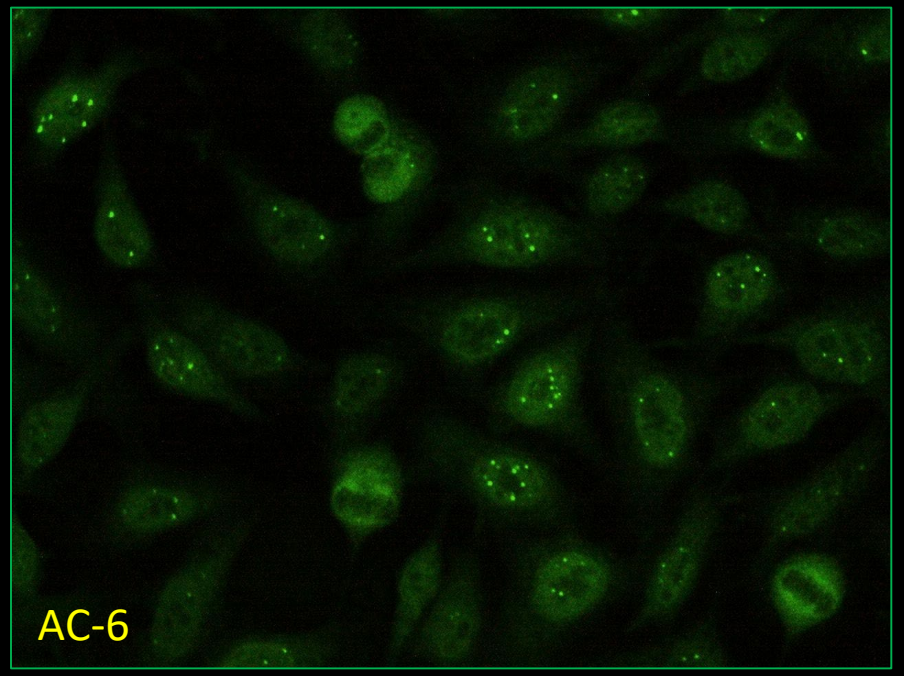


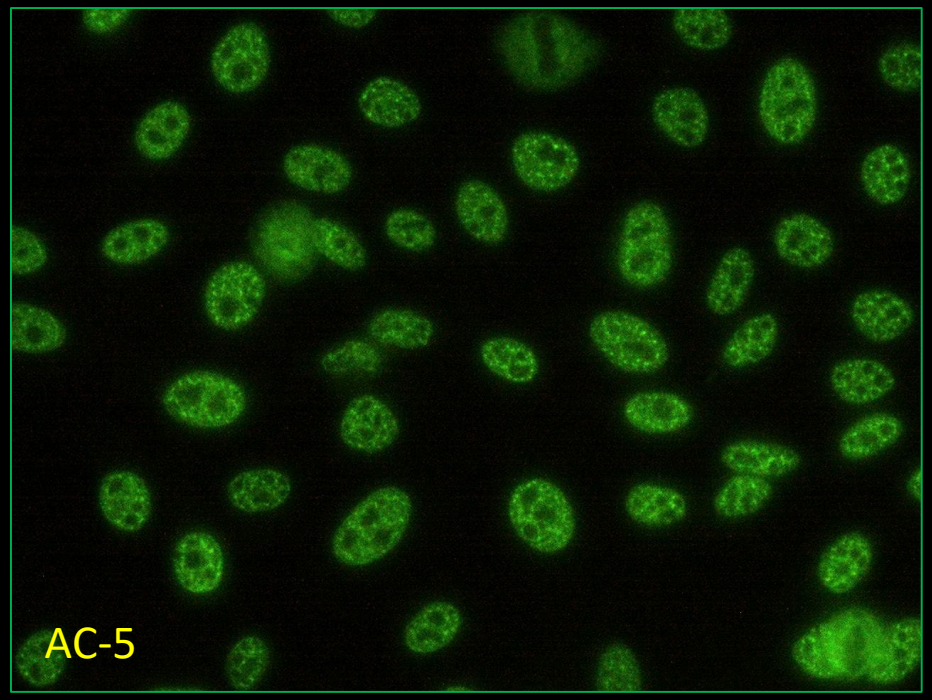
PATTERN ANA IFI

Clinicamente Rilevanti…

La cui esperta identificazione aiuta il riconoscimento dell’antigene bersaglio

Analogamente , la conoscenza della biologia molecolare e cellulare degli autoantigeni, fornisce indizi per la comprensione del pattern IFI hep-2 corrispondente





Conclusioni

- Il test di ricerca ANA mantiene una importanza assoluta per l' inquadramento diagnostico purchè eseguito presso laboratori di competenza dimostrata e inseriti in una rete a governo regionale
- Ogni approfondimento richiesto da Clinici o suggerito dal laboratorista deve avere un percorso condiviso e clinicamente orientato
- La metodica ANA-IFI non appare sostituibile da strumentazione robotizzata – al contrario il dato, armonizzato secondo ICAP, dovrà essere affiancata da metodi a rivelazione strumentale in fase solida
- Sarà necessario un intervento regolatorio normativo a livello regionale per estendere e ampliare il percorso ANA-Reflex

RINGRAZIAMENTI

Si ringraziano tutti i clinici di riferimento per lo stimolo, la condivisione dei casi, lo spirito di collaborazione

Un ringraziamento allo staff del Servizio Analisi Chimico-Cliniche, dirigente e tecnici di laboratorio, per il supporto e la competenza nel continuo aggiornamento dei metodi impiegati in questa area specialistica