

IUIS

**Quality Assessment and
Standardization**

CHAIR: Luis Andrade, Brazil

Council Meeting – 16. December, 2025

Established subcommittees under QAS Committee

- **Allergen Standardization - Stefan Vieths – Germany**
- **Autoantibodies in Rheumatic and Related Diseases – Edward Chan - USA**
- **Complement – Michael Kirschfink – Germany**
- **Leukocytes – Pablo Engel (Spain) and Tomas Kalina (Czech republic)**
- **Big data in Immunology – Jamie Scott – USA**
- **Cytokines – Menu Wadha (NIBSC - London) → ongoing harmonization w/ IUIS**

Potential collaboration with other committees



- **Nomenclature committee**
- **Veterinary committee**

Research Topic → 12th International Workshop on Autoantibodies and Autoimmunity (IWAA)



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12th International Workshop on Autoantibodies and Autoimmunity (IWAA)

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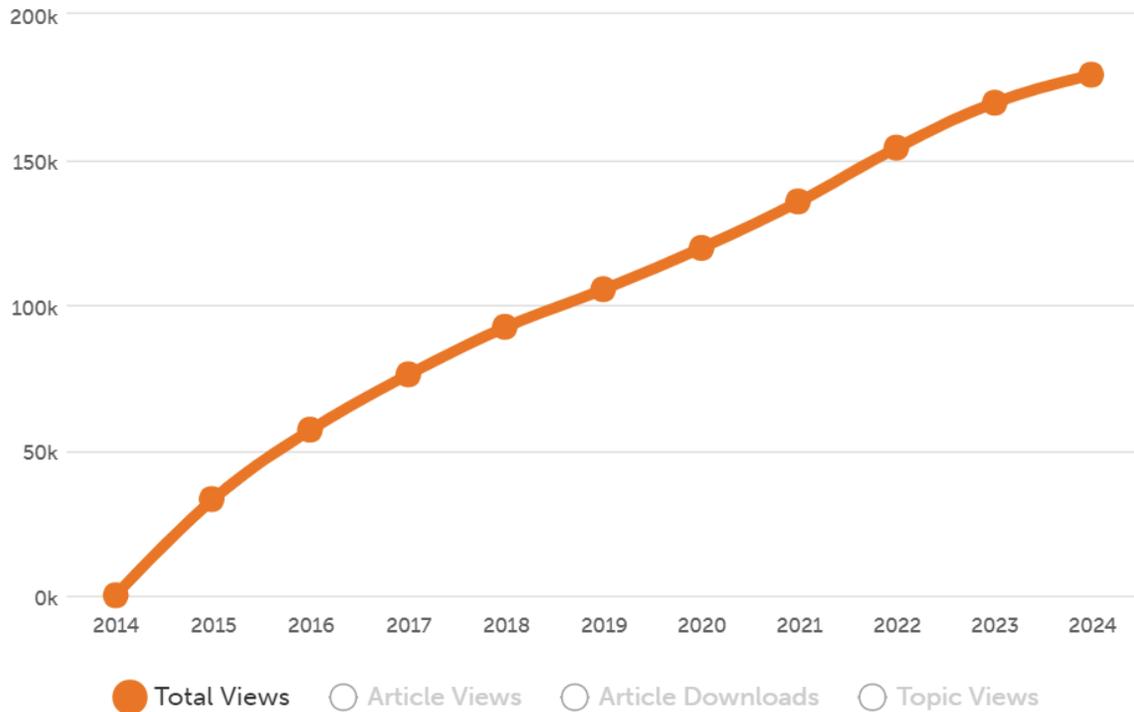
Luis Andrade, K. Michael Pollard, Allan Wiik, Edward Chan

Research Topic → 12th International Workshop on Autoantibodies and Autoimmunity (IWAA)

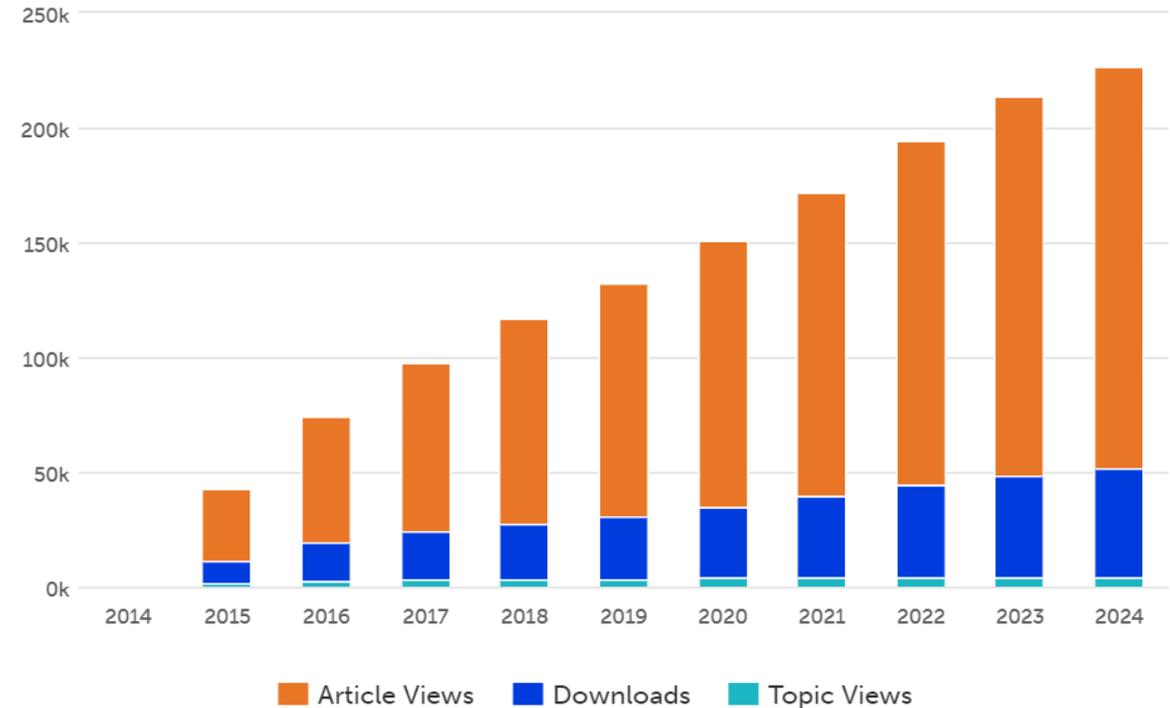


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Topic editors

Luis Andrade, Edward Chan, Pablo Engel, Michael Kirschfink, Stefan Vieths

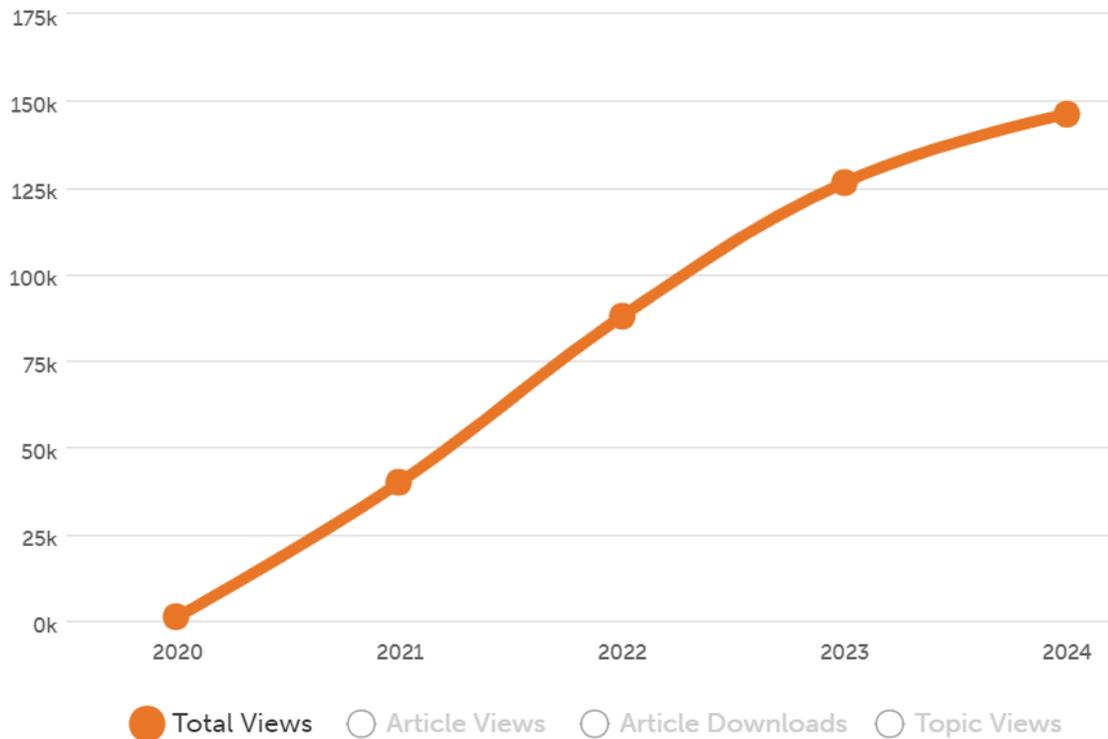
E-BOOK → Contemporary Challenges in Immunologic Testing in Clinical and Research Laboratories



Impact increase rate - July 30, 2024

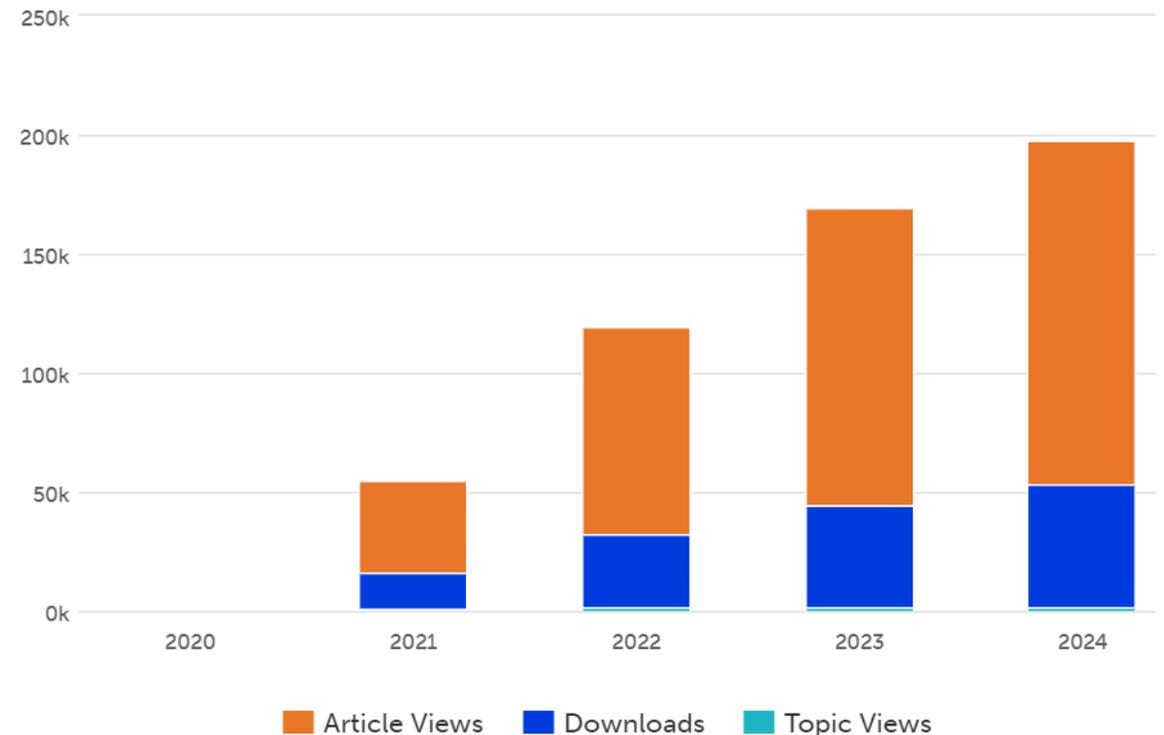
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Report progress 2022/2023



- Research Topic in Frontiers in Immunology
- **Allergen Subcommittee**
- Autoantibody Standardization Subcommittee
- Big-Data for Immunology Subcommittee
- Complement Subcommittee
- Cytokine Subcommittee
- Leukocyte Subcommittee

Allergen Subcommittee - 2025



Stefan Vieths, Germany

01/2023:20736

I) Biological Standardization Program (BSP) 163

- **increased demand** for recombinant allergen chemical reference standards (CRS) after implementation of General Texts in Ph. Eur.
- establishment of **replacement batches** for the recombinant major allergens Bet v 1 and Phl p 5a CRS necessary

→ **BSP163 started in 2021 (ongoing)**

→ **two candidate batches per allergen successfully produced in 2023**

→ **Phase I: convincing candidate batch quality demonstrated**

→ **Phase II: international ring trial completed in July 2024**

→ **unexpected differences observed between cCRS batches in allergen content**

→ **Phase III: testing of batches in alternative assays end of 2025, results awaited beginning 2026**



2.7.36. ASSAY OF BET V 1 ALLERGEN

Bet v 1 is the major allergen in birch (*Betula verrucosa*) pollen. Its content in birch native pollen extracts is determined by a suitable immunochemical method (2.7.1) such as enzyme-linked immunosorbent assay (ELISA).

PRINCIPLE

Perform an ELISA for the determination of pollen allergen Bet v 1 content using monoclonal antibodies specific for Bet v 1 epitopes.

Reagents may be prepared in the laboratory or purchased separately.

MATERIALS

ELISA microtitre plates: 96-well, flat-bottom plates, with high protein-binding capacity.

04/2024:20737



2.7.37. ASSAY OF PHL P 5 ALLERGEN

Phl p 5 is a major allergen in timothy grass (*Phleum pratense* L.) pollen. Its content in timothy grass native pollen extracts is determined by a suitable immunochemical method (2.7.1) such as ELISA.

PRINCIPLE

Perform an ELISA for the determination of pollen allergen Phl p 5 content using monoclonal antibodies specific for Phl p 5 epitopes.

Reagents may be prepared in the laboratory or purchased

Stefan Vieths, Germany

II) Project for Allergen Reference Standards and Assays

- extension of allergen standardization activities to other important allergens and new methods
→ establishment of reference preparations and **allergen-specific ELISA systems** for standardized quantification similar to BSP090

Target allergens:

- major house dust mite allergens
 - major peanut allergens
- **project in preparation, to be launched**
- establishment of standard **potency assays based on rec. human IgE monoclonal antibodies** once a sufficient number of assays are available and established by allergen product manufacturers

III) subcommittee gained 13 new members since last meeting

→ **next meeting scheduled at 17th International Paul-Ehrlich-Seminar (Sept. 2026)**

Report progress 2024/2025



- Research Topic in Frontiers in Immunology
- Allergen Subcommittee
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- Big-Data for Immunology Subcommittee
- Complement Subcommittee
- Cytokine Subcommittee
- Leukocyte Subcommittee

Edward Chan, USA

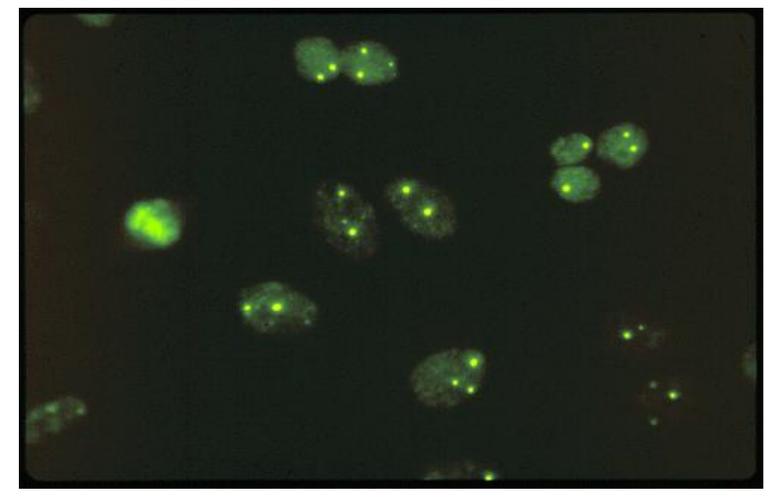
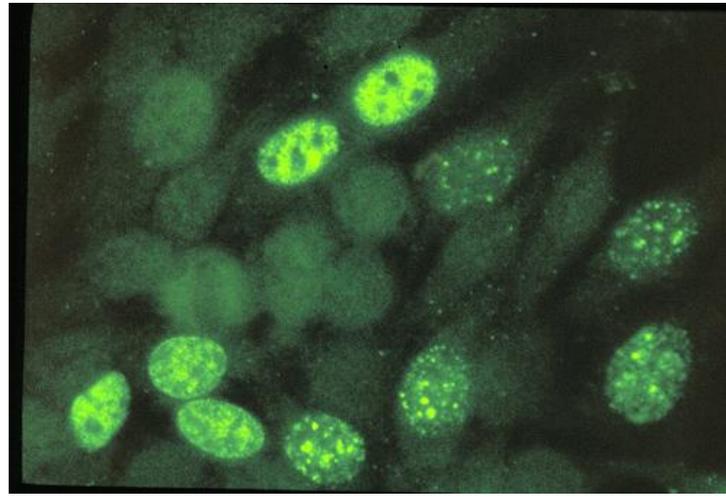
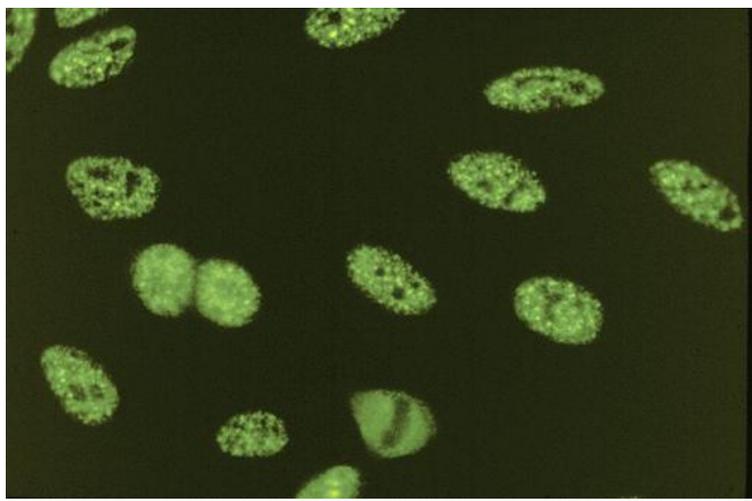
Reference material for autoantibody testing

- The total number of reference sera available from ASC now is 21, distributed worldwide free of charge (<https://asc.dental.ufl.edu/reference-sera/> via Plasma Service Group).
- Two reference materials were discontinued (better options offered by WHO):
 - Human IgG anti-cardiolipin monoclonal HCAL (anti-beta-2 GPI) - CAT#: IS2717
 - Human IgM anti-cardiolipin monoclonal EY2C9 (anti-beta-2 GPI) - CAT#: IS2717
- Three other reference sera are in the process of validation, containing antibodies to sp100, mitotic spindles, and nuclear envelope protein gp210, respectively.

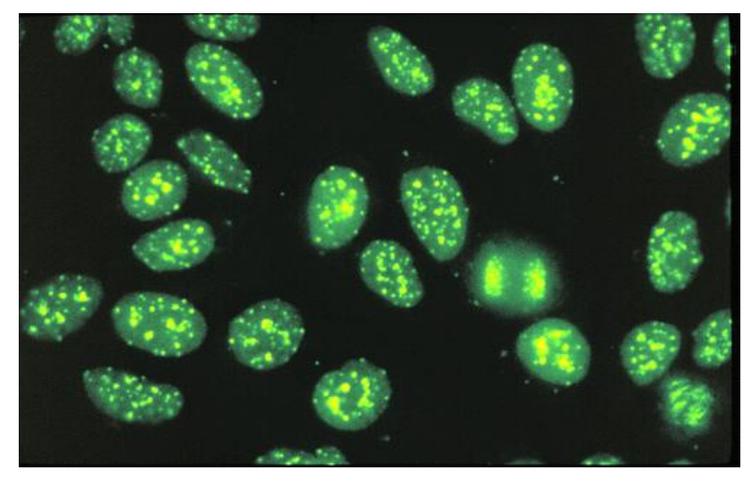
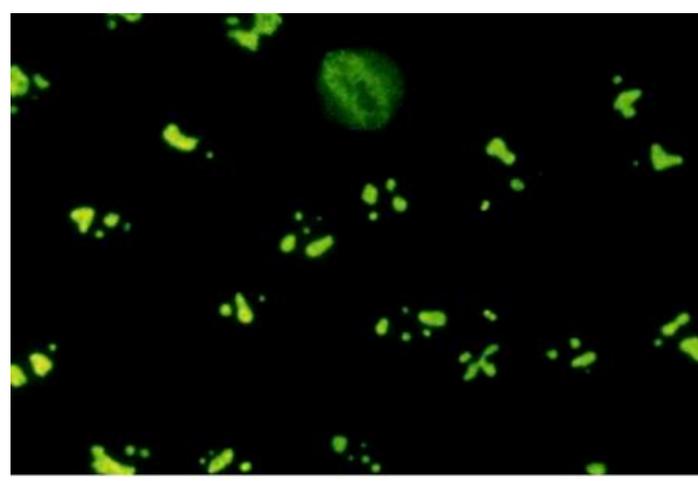
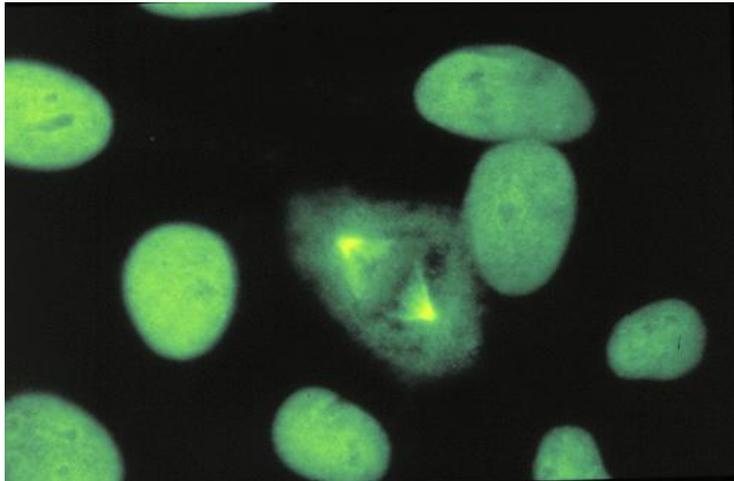
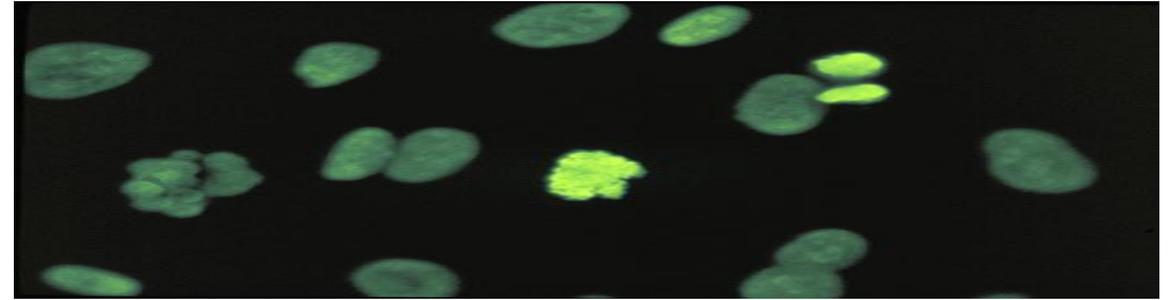
Edward Chan, USA

International Consensus on ANA Patterns - ICAP

- Promotes the harmonization and standardization in the indirect immunofluorescence assay on HEp-2 cells (HEp-2 IFA), historically known as the antinuclear antibody (ANA) test.
- Implementation of an upgraded Pattern Classification approved at the 8th ICAP Workshop in September 2025, in Dresden. Two novel nuclear patterns were approved, namely, AC-30 and AC-31 (Autoimmun Rev. 2024 Sep;23(9):103608. doi: 10.1016/j.autrev.2024.103608).
- The smartphone App for ICAP now is fully available also for iOS, therefore, fully available for any user in 19 languages.



The several HEp-2 IFA patterns indicate the possible autoantibodies in the samples





Why register and become an Affiliated Member

Login

Home

Nomenclature and classification tree

ANA Patterns

FAQ

Choose AC-#

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ICAP
INTERNATIONAL CONSENSUS ON
ANA PATTERNS



www.ANAPatterns.org

English

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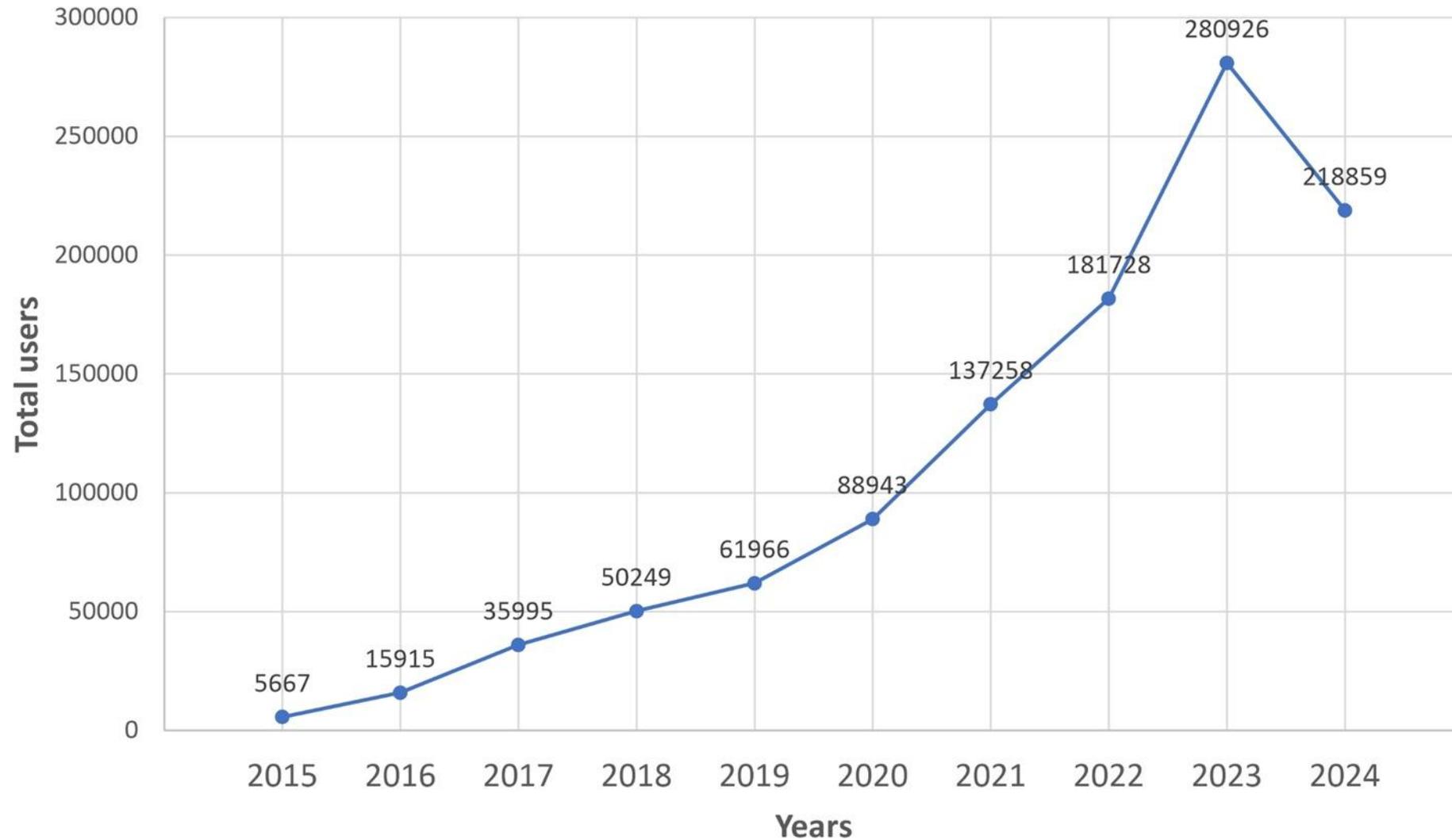
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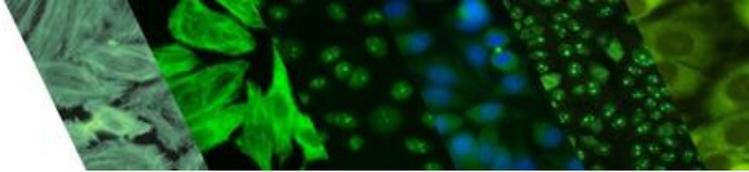
Welcome to ANAPatterns.org, the official website for the international Consensus on Antinuclear Antibody (ANA) Patterns (ICAP). ICAP was initiated as a workshop aiming to thoroughly discuss and to promote consensus regarding the richness and nuances of morphological patterns observed in the indirect immunofluorescence assay on HEp-2 cells (HEp-2 IFA). The ICAP initiative was implemented at the 12th International Workshop on Autoantibodies and Autoimmunity (IWAA, São Paulo, Brazil) by members of the Autoantibody Standardization Committee (ASC), a subcommittee of the International Union of Immunological Societies (IUIS) Quality Assessment and Standardization Committee and affiliated with the Centers for Diseases Control and Prevention (CDC). The ICAP committee is operating as an ASC sub-committee.

- Website translated into 19 languages.
- Over 340,000 views per year from users across >190 countries in the five continents
- First and Second ICAP training modules released free of charge at the website; 3rd and 4th modules are in preparation. A total of 2,748 users completed the ICAP Training Module 1.
- FAQ – committee members address questions raised from users on a regular basis

Number of website visitors



Total ICAP visitors by year based on Google Analytics report since 2015



Total visitors in 2024/2025 (October to October): **216,571**



	Total	216 571 100% do total
1	United States	46 801 (21,61%)
2	Brazil	13 914 (6,42%)
3	Mexico	13 102 (6,05%)
4	Chile	12 008 (5,54%)
5	Spain	11 303 (5,22%)
6	Italy	11 063 (5,11%)
7	India	9 087 (4,2%)
8	Colombia	8 038 (3,71%)
9	Argentina	7 362 (3,4%)
10	Germany	6 682 (3,09%)

ICAP Affiliated Members

Why register and become an Affiliated Member

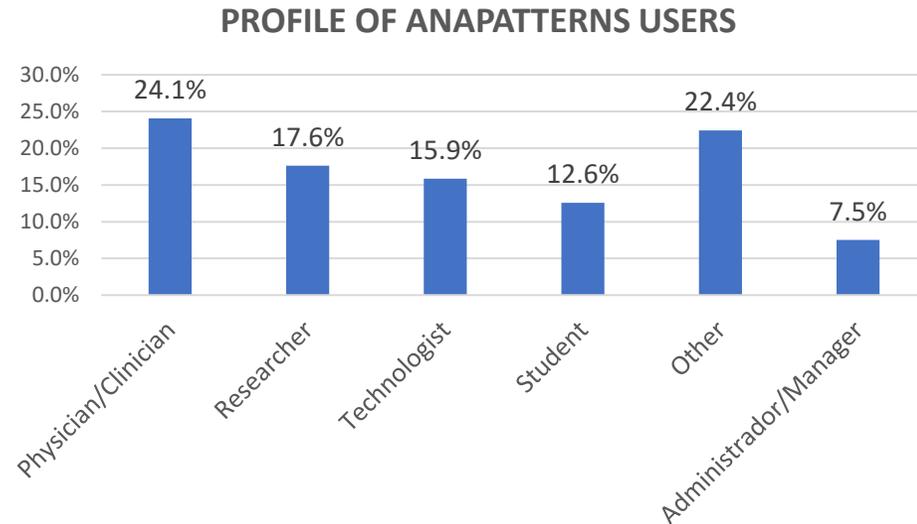
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ICAP INTERNATIONAL CONSENSUS ON ANA PATTERNS www.ANApatterns.org

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English

Welcome to ANApatterns.org, the official website for the International Consensus on Antinuclear Antibody (ANA) Patterns (ICAP). ICAP was initiated as a workshop aiming to thoroughly discuss and to promote consensus regarding the richness in nuances of morphological patterns observed in the indirect immunofluorescence assay on HEp-2 cells. The ICAP initiative was implemented at the 12th International Workshop on Autoantibodies and Autoimmunity (IWAA) by members of the Autoantibody Standardization Committee (ASC), a subcommittee of the International Union of Immunological Societies (IUIS) Quality Assessment and Standardization Committee and affiliated with the Centers for Diseases Control and Prevention (CDC). The ICAP committee is operating as an ASC sub-committee.

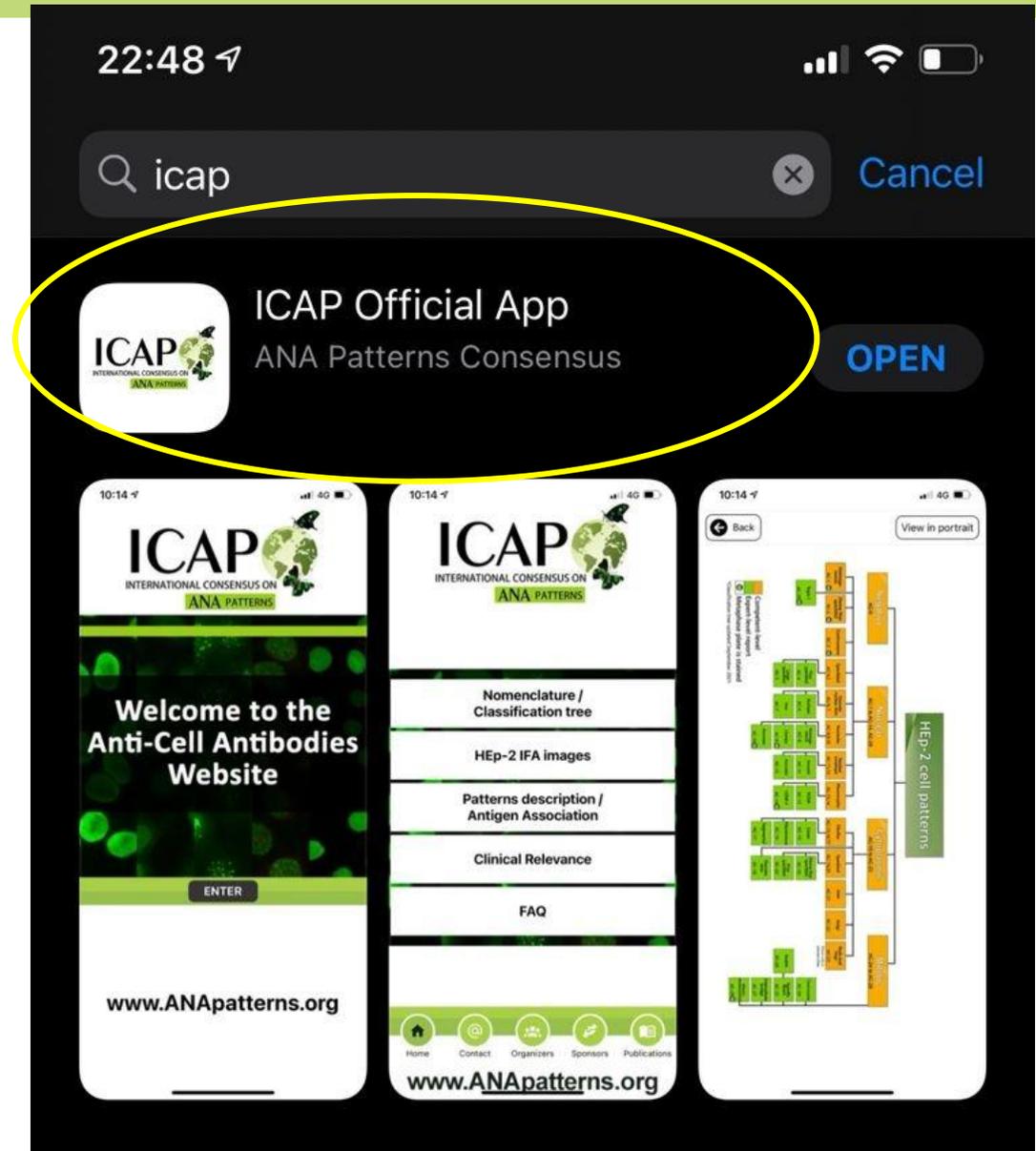
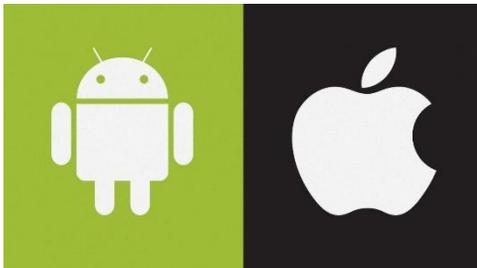


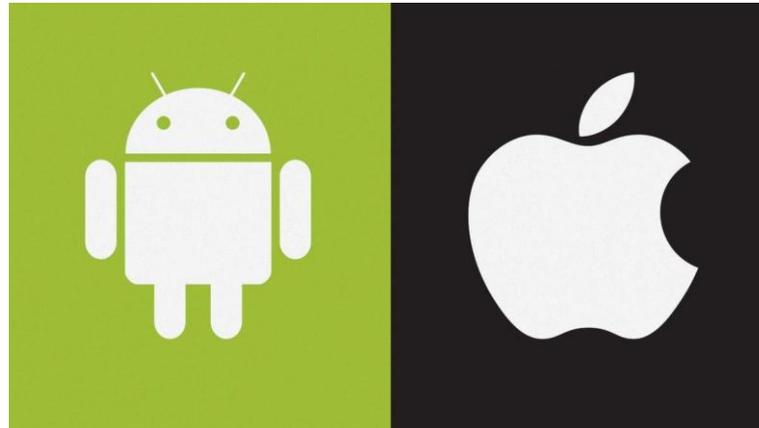
7,662 total affiliated members*

* Survey of total subscribed users in October 1, 2025.

ANAPATTERNS APP

Available on IOS and Android.





Downloads on Android

3,164

Downloads on iOS

2,454

Downloads made on Apple and Android devices until August 8, 2025.



IUIS Autoantibody Standardizing Committee

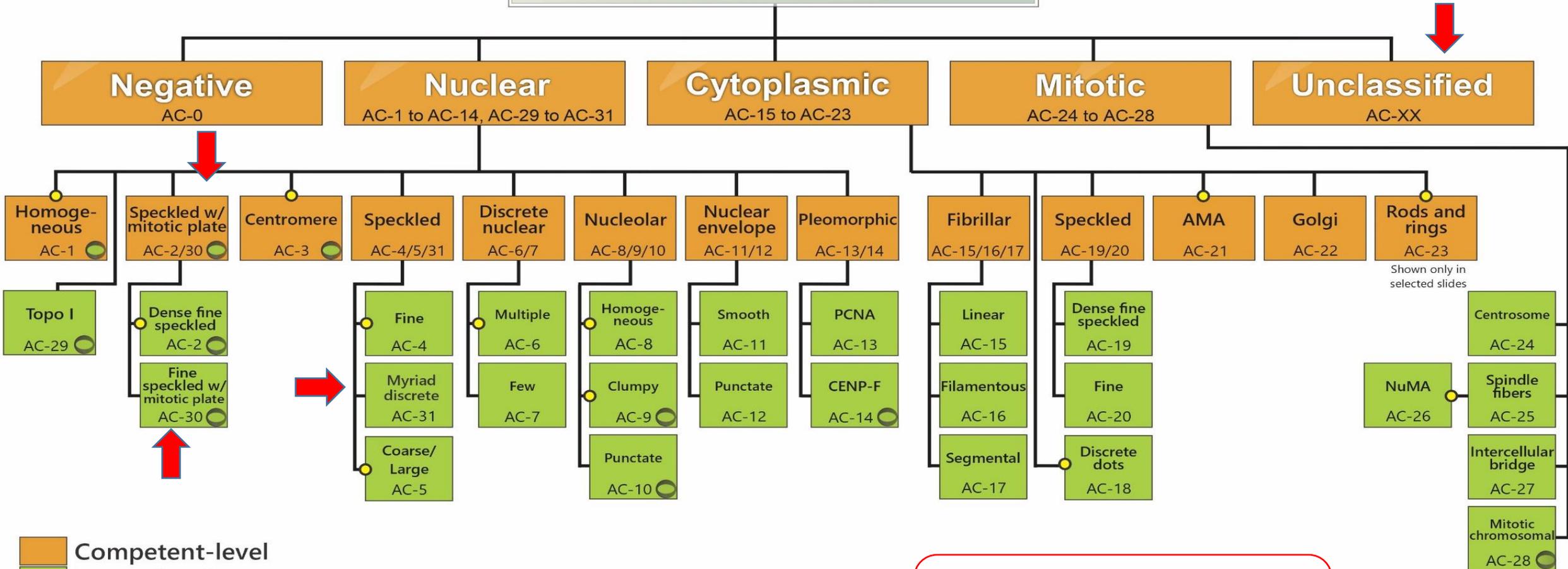
VIII WORKSHOP – INTERNATIONAL CONSENSUS ON ANA PATTERNS

**ICAP usage and impact across the world and evaluation of novel
HEp-2 IFA patterns**

**32st Dresden Symposium on Autoantibodies
Dresden, Germany – September 12-15, 2025**

Hep-2 cell patterns

New classification tree



- Competent-level
- Expert-level report
- Metaphase plate is stained

Reference materials available at www.AutoAb.org

*Classification tree updated February 2024

New categories in the classification tree

A Decade of Advancement: The International Consensus on ANA Patterns (ICAP)

By Luis E. C. Andrade, Wilson M. Cruvinel, and Edward K. L. Chan, representing the ICAP Executive Committee

The International Consensus on ANA Patterns (ICAP) emerged in 2014 as an initiative under the Autoantibody Standardizing Committee, an IUIS Quality Assessment and Standardization Committee subcommittee. ICAP's primary objective has been to harmonize the technical procedures and interpretational aspects of the HEp-2 IFA test, historically known as the antinuclear antibody (ANA) test. The HEp-2 IFA test is instrumental in detecting numerous autoantibodies targeting various intracellular antigens, offering insights into the serum levels and potential antigenic targets of these autoantibodies. Consequently, it serves as an essential tool in the laboratory investigation of patients suspected of systemic autoimmune diseases.

The ICAP executive committee comprises globally renowned experts in autoimmunity and HEp-2 IFA testing. Over the past decade, ICAP has championed the cause of precise reading, interpretation, and reporting of HEp-2 IFA images in clinical diagnostic laboratories, academic research, and the IVD industry worldwide. This concerted effort has significantly contributed to enhancing medical care for autoimmune patients.

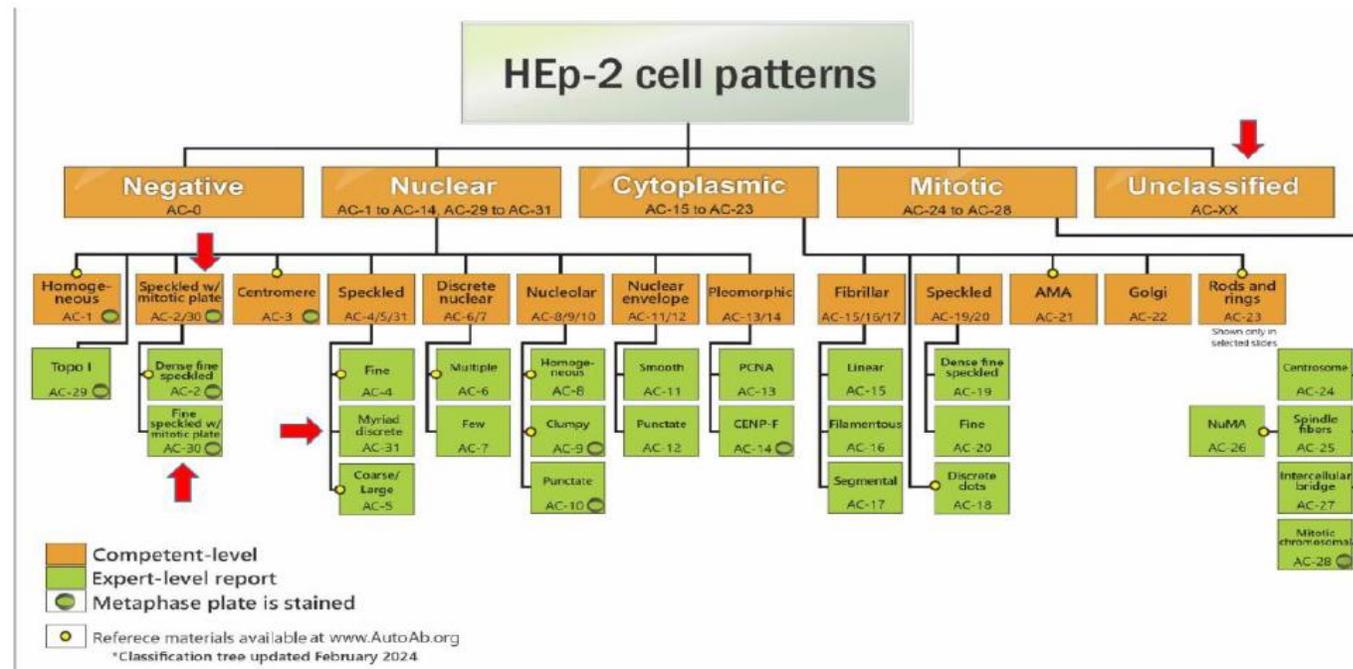


Figure 1 - Updated ICAP Nomenclature and Classification Tree. Arrows indicate modifications to the existing classification tree, including the addition of the new patterns AC-30 and AC-31. AC-30 and AC-2 patterns are considered expert-level patterns and fall under the umbrella of the competent-level Nuclear Speckled Patterns with stained Metaphase Plate (AC-2/AC-30). AC-4, AC-5, and AC-31 patterns are considered expert-level patterns and fall under the umbrella of the competent-level Nuclear Speckled Patterns (AC-4/AC-5/AC-31). The Unclassified Patterns Box provides a hyperlink to a separate page with images of rare patterns not yet classified by ICAP.

Edward Chan, USA

Publications (2023 – 2025)

1. Andrade LEC, Chan EKL, Vieths S, Engel P, Kirschfink M. Editorial: Contemporary challenges in immunologic testing in clinical and research laboratories. *Front Immunol*. 2023 doi: 10.3389/fimmu.2023.1259823.
2. Vercammen M, Bonroy C, Broeders S, Chan EKL, Bizzaro N, Bogdanos DP, Andrade L, Coucke W, de Melo Cruvinel W, Kozmar A, Kuhi L, Lutteri L, Rego de Sousa MJ, Schouwers S, Van Hoovels L, Bossuyt X; EFLM Working Group on Autoimmunity Testing. Analytical aspects of the antinuclear antibody test by HEp-2 indirect immunofluorescence: EFLM report on an international survey. *Clin Chem Lab Med*. 2023:1199-1208. doi: 10.1515/cclm-2023-0210.

Edward Chan, USA

Publications (2023 – 2025)

3. Bonroy C, Vercammen M, Fierz W, Andrade LEC, Van Hoovels L, Infantino I et al. Detection of antinuclear antibodies: recommendations from EFLM, EASI and ICAP. Clin Chem Lab Med. 2023;61(7):1167-1198.
4. Infantino M, Bizzaro N, de Melo Cruvinel W, Chan EKL, Andrade LEC. Adopting the International Consensus on ANA Patterns (ICAP) classification for reporting: the experience of Italian clinical laboratories. Clin Chem Lab Med. 2023:830-4. doi: 10.1515/cclm-2023-0752.
5. Andrade LEC, Klotz W, Herold M, Musset L, Damoiseaux J, Infantino M, et al. Reflecting on a Decade of the International Consensus on ANA Patterns (ICAP): Accomplishments and Challenges from the Perspective of the 7th ICAP Workshop. Accepted for publication in Autoimmunity Reviews.

Edward Chan, USA

Publications (2023 – 2025)

6. Infantino M, Carbone T, Patel D, Sargur R, Stanley C, Bhayat-Cammack A, Garrafa E, Pancani S, Manfredi M, Andrade LEC, Bizzaro N. Harmonization of anti-nuclear antibody testing (ANA) by indirect immunofluorescence assay: Results from ten years of UK NEQAS external quality assessment. *Clin Chim Acta*. 2025 Feb 1;567:120088. doi: 10.1016/j.cca.2024.120088.
7. de Melo Cruvinel W, Ferreira GG, de Souza LL, da Costa Veloso Neto W, Gomes CM, Francescantonio PLC, Andrade LEC. The spectrum of nuclear patterns with stained metaphase chromosome plate: morphology nuances, immunological associations, and clinical relevance. *Clin Chem Lab Med*. 2025 Jun 18;63(10):1915-1927. doi: 10.1515/cclm-2025-0286.

Edward Chan, USA

Publications (2023 – 2025)

8. Fritzler MJ, Muro Y, Klotz W, Herold M, Andrade LEC, Grecco M, Satoh M, Choi MY, Infantino M, Chan EKL. Striatin-3 is a human autoantigen but it is not associated with the S-phase G2 nuclear antigen (SG2NA) staining pattern. *J Autoimmun.* 2025 Nov 25;158:103503. doi: 10.1016/j.jaut.2025.103503.

Recommendation by the Association for Diagnostic & Laboratory Medicine (ADLM)



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CLN - ASK THE EXPERT

Tips for Adopting the ICAP Classification for Reporting

Ask the Expert: January/February 2023

Jan 01, 2023 Edward K.L. Chan, PhD

Why adopt the International Consensus on ANA Patterns (ICAP) classification for reporting?

A: The indirect immunofluorescence assay on HEp-2 cells (HEp-2 IFA), commonly known as the antinuclear antibody (ANA) test, is used worldwide in screening for autoantibodies, many of which are valuable biomarkers for the diagnosis of systemic autoimmune diseases. The IFA pattern often provides valuable information about the putative auto-antibody specificity in a sample.

One limitation of reporting HEp-2 IFA patterns is the use of terminology that does not have international consensus. This apparent lack of consensus in HEp-2 IFA pattern descriptors and nomenclature prompted the formation of the ICAP committee in 2014. The goals of ICAP are to promote the harmonization of HEp-2 IFA pattern nomenclature, refine interpretation and test result reports, and emphasize immunological associations and clinical relevance of IFA patterns to optimize and align their usage in clinical care. The ICAP website www.anapatterns.org provides the consensus classification of more than 30 HEp-2 IFA patterns with illustrative images and detailed information on the immunological and clinical relevance of each pattern (Ann Rheum Dis 2019; doi.org/10.1136/annrheumdis-2018-214436).

SHARE



<https://www.myadlm.org/CLN/Articles/2023/JanFeb/Tips-for-Adopting-the-ICAP-Classification-for-Reporting>

Autoantibody Standardization Subcommittee - Funding IUIS

Unrestricted Educational Grant Support for the Autoantibody Standardization Committee – ASC/ICAP



MEDICAL & BIOLOGICAL LABORATORIES CO., LTD

Report progress 2021/2022



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- **Big Data for Immunology Subcommittee**
- Complement Subcommittee
- Cytokine Subcommittee
- Leukocyte Subcommittee

Members

- Felix Breden (Canada)
- Christian Busse (Germany) * Co-Chair
- Dharshan de Silva (Sri Lanka)
- Helder Nakaya (Brazil)
- Ryan Brinkman (Canada) Flow/Mass Cytometry Working Group Chair
- Bjoern Peters (USA)
- Jamie Scott (Canada) * Co-Chair

Big Data for Immunology Sub-Committee (BDI-SC) - 2024

Jamie Scott, Canada

12/2024

Overall objective: To standardize (and/or make interoperable) existing well-defined clinical and experimental ontologies to support sharing and analysis of immunology data (**BID**).

- From the wide variety of BID, we are initially focusing on three types of data:
 - Flow/mass cytometry data
 - RNA-sequencing data
 - Adaptive immune receptor (AIRR) sequencing data.
- BDI SC Co-chaired Standards Working Groups for the 3 data types:
 - A Flow Cytometry Metadata Standards Working Group was established, headed by Ryan Brinkman, University of British Columbia, an expert in Flow Data and Metadata Standards in collaboration with ISAC (International Society for Advancement of Cytometry)
 - Standards Working Groups for RNA-sequencing data and AIRR-sequencing data are in process

Quiescent – internal reorganization

- Research Topic in Frontiers in Immunology
- Allergen Subcommittee
- Autoantibody Standardization Subcommittee
- Big-Data for Immunology Subcommittee
- **Complement Subcommittee**
- Cytokine Subcommittee
- Leukocyte Subcommittee

Chairpersons

- Michael Kirschfink, Heidelberg Germany
- Zoltán Prohászka, Budapest, Hungary
- Ashley Frazer-Abel, Denver, Co, USA

External Quality Assessment (EQA) program

- To assess participants' lab performance
- To evaluate comparison among diagnostic tests
- To provide training opportunities
- To build up a communication network
- To establish guidelines for complement diagnostics

Editions of the External Quality Assessment (EQA) program

1. Strategy Workshop 2009, Budapest

EQA1 (2010): 12 Labs, 9 Parameters

EQA2 (2011): 15 Labs, 10 Parameters

EQA3 (2012): 18 Labs, 21 Parameters

EQA4 (2014): 26 Labs, 18 Parameters

EQA5 (2015): 35 Labs, 18 Parameters

2. Strategy Workshop 2016, Budapest

EQA6 (2016): 43 Labs, 18 Parameters

EQA7 03/2017: 64 Labs, 11 Parameters

EQA8 10/2017: 96 Labs, 20 Parameters

3. Continuous yearly editions

EQA11: 03/2019: 138 Labs, 11 Parameters

EQA12: 10/2019: 180 Labs, 20 Parameters

EQA15: 03/2021: 186 Labs, 11 Parameters

EQA16: 10/2021: 241 Labs, 20 Parameters

EQA17: 03/2022: 199 Labs, 11 Parameters

EQA18: 10/2022: 260 Labs, 20 Parameters

EQA19: 03/2023: 209 Labs, 11 Parameters

EQA20: 10/2023: 267 Labs, 20 Parameters

EQA21: 03/2024: 221 Labs, 11 Parameters

EQA22: 10/2024: 259 Labs, 20 Parameters

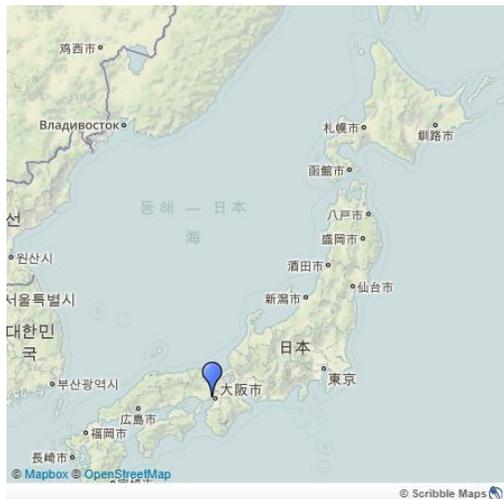
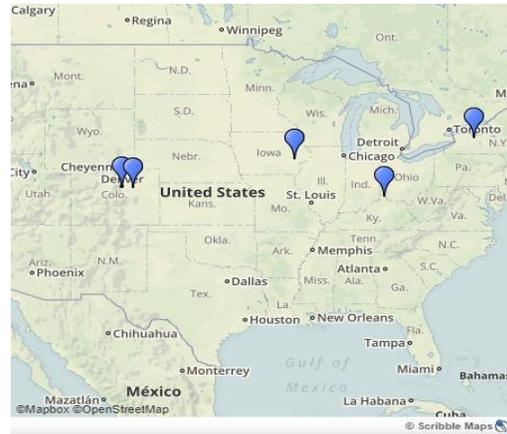
EQA23: 03/2024: 241 Labs, 11 Parameters

EQA24: 10/2025: 351 Labs, 20 Parameters

Subcommittee for the QAS of complement measurements 2025



International participants of the EQA program



40 countries



Recent meetings:

- 259 labs have participated in the EQA round of 2024 and a significant increase to 351 labs in participation has been observed in the October/2025 round (35% increase). Data have been reported on the IGLD-INSTANT Symposium (March 2024) and have been discussed on the 19th Meeting on Complement in Human Disease in Lübeck, Germany (September 2024), at the Meeting of the Complement Working Group of the German Society of Immunology, Hamburg, Germany (March 2025), and at the 19th International Immunology Congress, Vienna, 17.–22.08. 2025.

Complement Subcommittee – 2024/2025



With the financial support of the IUIS, the 1st International Immunodiagnostic Symposium with 250 participants was held in January 2025 at the Al-Azhar University in January 2025 in Cairo. The 2 days symposium focused on the standardization of immunodiagnosics in the fields of infectious diseases, autoimmunity and cancer

1ST International Immunodiagnostic Symposium
“Novel Trends in Immunodiagnosics:
From Immunodeficiency to Autoimmunity and Cancer”
13-14 January 2025

Under the Patronage of

Prof. Ahmed El-Tayeb
Grand Imam of Al-Azhar Al-Sharif

Prof. Salama Dawoud
President of Al-Azhar University.

Prof. Mahmoud Seddik
Vice President for postgraduate Studies and Research.

Prof. Michael Kirschfink
Professor of Immunology, Institute of Immunology University of Heidelberg

Prof. Yasser Helmy
Director of the International Excellence Bureau (IEB) at Al-Azhar University

Prof. Mohamed Farag
Director of International Collaboration and International Programs at IEB, Al-Azhar University

Ongoing activities:

- *The working group is still in the process of establishing an assay for the measurement of C3 nephritic factor (C3Nef), an autoantibody, which, by stabilizing the so-called C3 convertase, leads to severe complement activation, of great clinical relevance in various nephropathies.*
- *There are also ongoing activities to establish liposome-based assays for measuring the function of the alternative and the lectin pathways.*
- *The committee is currently planning the 2nd Immunodiagnostic Symposium in Cairo, Egypt, for April 2026.*

Publications

- Kirschfink M, Frazer-Abel A, Balogh E, Goseberg S, Weiss N, Prohászka Z. [External quality assurance program for diagnostic complement laboratories: evaluation of the results of the past seven years.](#) Front Immunol. 2024 Mar 26;15:1368399.
- Hoecherl K, Streif S, Spitzenberg C, Rink S, Behrent A, Holzhausen F, Griesche C, Rogoll C, Foedlmeier M, Gebhard A, Kulikowski K, Schaefer N, Pauly D, Baeumner AJ . [A homogeneous immunoassay technology based on liposomes and the complement system enables one-step, no-wash, rapid diagnostics directly in serum.](#) Bioanal Chem. 2025 Jun;417(15):3257-3273.

Report progress 2021/2022



- Research Topic in Frontiers in Immunology
- Allergen Subcommittee
- Autoantibody Standardization Subcommittee
- Big-Data for Immunology Subcommittee
- Complement Subcommittee
- **Cytokine Subcommittee**
- Leukocyte Subcommittee

Cytokine Subcommittee – 2021/2022

Meenu Wadhwa, UK*

International Cytokine and Interferon

- The International Cytokine and Interferon Society (ICIS) Standards Committee was established to make recommendations on interferon and cytokine standards and standardization
- The Committee works with the Medicines and Health Care Products Regulatory Agency (MHRA) as a collaborating center, which produces international standards for biologics. It also works with the NIH, the Biodefense and Emerging Infections Resources Laboratory (BEI Resources), pharmaceutical manufacturers, and regulatory agencies

Quiescent – need to be stimulated

* ICIS Member

Report progress 2023/2024



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Pablo Engel, Spain

Menno van Zelm, Australia

Tomas Kalina, Czech Rep

HLDA11 workshop

- 14 new CD designations were assigned to GPCR cell-surface molecules expressed on immune cells:
- CD198 (CCR8), CD199 (CCR9), CD372 (CCR10), CD373 (CXCR1), CD374 (XCR1), CD375 (GPR15), CDw376 (GPR26), CD377 (SSTR3), CD378 (C3AR1), CDw379 (FPR2), CD380 (LTB4R), CDw381 (GPR13), CDw382 (F2RL1) and CD383 (P2RX7).
- Publication in European Journal of Immunology, accepted, in press

Menno van Zelm, Australia
Tomas Kalina, Czech Rep

HCDM.org website redesign

- Required redesign due to outdated engine
- hcdm.org

Lectures

2025, ESLHO Symposium, Brno, CZ – Tomas Kalina invited lecture: HCDM CDMaps initiative: antibody validation and expression profiling of immune system G protein-coupled receptors (GPCRs) – HLDA 11 workshop results

2025, IUIS, Vienna, AT – Daniela Kužílková: Current challenges and perspectives in leukocyte immunophenotyping

2025, Mikulov, CZ - Daniela Kužílková: CD molecules nomenclature 2025: Antibody validation and expression profiling of immune system G protein-coupled receptors (GPCRs)

Menno van Zelm, Australia
Tomas Kalina, Czech Rep

New board and plans for 2026

- Close and publish CDMaps project
- Develop educational lectures and develop more opportunities to reach the target public
- Develop an online presence and tutorials
- Create and publicly discuss a new system for antibody validation and benchmarking (how to self-finance it as service to community?)