

ANNUAL REPORT OF THE IUIS NOMENCLATURE COMMITTEE (2013-2014) by Pablo Engel

Mission

The mission of the different IUIS Nomenclature subcommittees is to establish a universal and consistent nomenclature for both molecules and cells of the immune system.

Main goal

The main goal is to create a nomenclature that would be unambiguous, flexible, informative, neutral, and if possible easy to remember and simple in order to facilitate the communication between scientists in the fields of immunology and biomedicine. This is of key importance to establish a common language for diagnosis and therapy of diseases related to alternations of the immune system and also basic research.

Accomplishments

The IUIS subcommittees have been establishing the nomenclature of different molecules of the immune system during more than 20 years. More recently, new committees have been also created for the nomenclature of cells and cellular subsets.

Current IUIS Nomenclature Subcommittees and chairs

Allergen Nomenclature Subcommittee. Chair: Heimo Breiteneder

CD Nomenclature Subcommittee. Chair: Pablo Engel

IG, TR and MH Nomenclature Subcommittee. Chair Marie-Paule Lefranc

Monocytes and Dendritic Cells in Blood Subcommittee. Chair: Loems Ziegler-Heitbrock

KIR Nomenclature Subcommittee. Chair: Steve Marsh

MALT Nomenclature Subcommittee. Chair: Per Brandtzaeg

Interleukin. Chair: John Schrader

B cells and plasma cells. Chair: Ignacio Sanz

The IUIS nomenclature is proposed by the Nomenclature subcommittees after wet workshops, classical or virtual meetings. The subcommittee should seek approval for their proposed consensus nomenclature during the annual IUIS council meeting.

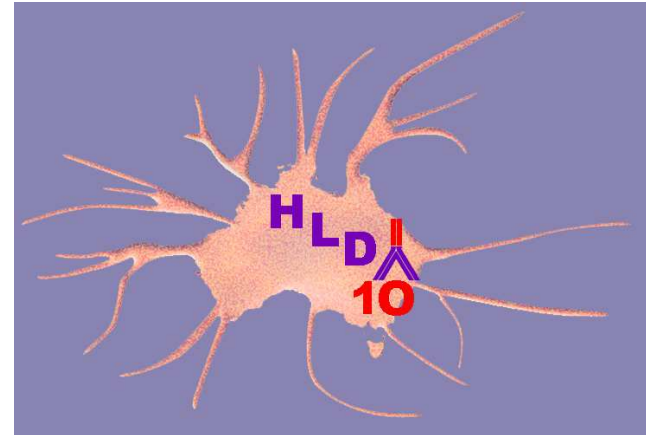
Highlights activities of the Nomenclature Subcommittees (2013-2014)

Nomenclature subcommittee on CD molecules

Chair: Pablo Engel

web page: www.hcdm.org

- There are currently **364 CD molecules**
 - Two year wet workshop to establish new CDs (2012-2014) .
- The organization of HLDA10 Conference to be held in Wollongong (Australia), its focus is “**Dendritic cell makers**” (1st- 2nd December 2014)



Nomenclature subcommittee on allergen

Chair: Heimo Breiteneder new chair: Richard Goodman

web page: www.allergen.org

- There are currently **782 allergen** entries posted.
- Thirteen new allergen names were created so far in August. Submissions for allergen names are reviewed by at least two members of the committee and records are archived online. In some cases the sequences are held confidential until publications are released.

Nomenclature of Monocytes and Dendritic Cells in Blood subcommittee

Chair: Loems Ziegler-Heitbrock

- Blood monocytes and DCs Nomenclature has become fairly clear and it consolidates.
- Also the classification into two types of myeloid and one plasmacytoid DC is taking ground.
- Position paper has been published in Frontiers of Immunology (2013).

For more detailed information please check the Annual report of the Nomenclature Committee (21013-2014)

Highlights activities of the Nomenclature Subcommittees (2013-2014)

Nomenclature subcommittee on B cells and plasma cells

Chair: Ignacio Sanz

- Has establish the general mandate, vision and specific goals of the subcommittee
- Has proposed working classification of human B cell populations

Nomenclature subcommittee on the Immunoglobulins (IG), T cell Receptors (TR) and Major Histocompatibility (MH)

Chair: Marie-Paule Lefranc

Web page: www.imgt.org

- In August 2014, IMGT/GENE-DB, the IMGT® gene database contained **3,279 IMGT genes and 4,902 alleles from 21 species**.
 - 710 IG and TR genes and 1,438 alleles for *Homo sapiens*,
 - 321 IG and TR genes and 368 alleles for *Macaca* (312 genes and 353 alleles for *Macaca mulatta*),
 - 889 IG and TR genes and 1,342 alleles for *Mus* (868 genes and 1318 alleles for *Mus musculus*),
 - 560 IG and TR genes and 564 alleles for *Rattus norvegicus*.
- Other statistics are available at <http://www.imgt.org/genedb/stats>.
- Has published a position paper in Frontiers in Immunology

KIR Nomenclature Sub-Committee

Chair: Steve Marsh

Web page: www.ebi.ac.uk/ipd/kir

- This subcommittee keeps a database that provides a centralised repository for human KIR sequences.
- These have resulted in **714 officially named KIR allele sequences**, with 62 novel sequences being submitted during 2013.

For more detailed information please check the Annual report of the Nomenclature Committee (21013-2014)

Publications (2013-2014) Nomenclature and position papers

Radauer C, Nandy A, Ferreira F, Goodman RE, Larsen JN, Lidholm J, Pomés A, Raulf-Heimsoth M, Rozynek P, Thomas WR, Breiteneder H. Update of the WHO/IUIS Allergen Nomenclature Database based on analysis of allergen sequences. *Allergy*, 2014, 69(4):413-419; is an open access publication.

Breiteneder H, Chapman MD. Allergen Nomenclature. In *Allergens and Allergen Immunotherapy: Subcutaneous, sublingual and oral*. 5th Edition. Edited by Richard F. Lockey and Dennis K. Ledford. CRC Press, Taylor and Francis Group, Boca Raton, Florida, USA, 2014, pp 37-49

Ziegler-Heitbrock, L, Hofer, TPJ: Toward a refined definition of blood monocytes, **Front Immunol**. 2012;4:23.

Lefranc MP. Immunoglobulin and T Cell Receptor Genes: IMGT® and the Birth and Rise of Immunoinformatics. **Front Immunol**. 2014;5:22.

Lefranc MP. Immunoinformatics of the V, C, and G domains: IMGT® definitive system for IG, TR and IgSF, MH, and MhSF. *Methods Mol Biol*. 2014;1184:59-107.

Alamyar E, Giudicelli V, Duroux P, Lefranc MP. Antibody V and C domain sequence, structure, and interaction analysis with special reference to IMGT®. *Methods Mol Biol*. 2014;1131:337-81.

Future Directions

1) **Continue the work of current Nomenclature subcommittees**

2) **Create new Nomenclature subcommittees to cover all the molecules and cells of the immune system**

A new subcommittee should consist of scientists coming from various parts of the world, well known in a specific field, and endorsed by their society or the scientific community.

The new subcommittee has to have a list of members in order to build standing committees.

3) **To disseminate the approved Nomenclature to the scientific community** using the IUIS web side and Frontiers of Immunology (official journal of IUIS) as platforms.

Approval new Nomenclature Subcommittees at the 62nd IUIS Council Meeting

Complement Subcommittee

supported by International Complement Society (www.complement.org)

Chair: Andrea Tenner (Irvine CA)

The proposal is that the ICS Board would function as a standing Complement IUIS Nomenclature Committee

Recent publication: Kemper C, Pangburn MK, Fishelson Z. Complement Nomenclature 2014. *Mol Immunol.* 2014;61:56-58.

Atypical chemokine receptors Subcommittee

Chair Phil Murphy (Bethesda, USA)

To be determined

Recent publication: Bachelier F, Graham GJ, Locati M, Mantovani A, Murphy PM, Nibbs R, Rot A, Sozzani S, Thelen M. New nomenclature for atypical chemokine receptors. *Nat Immunol.* 2014;15:207-8

New potential Nomenclature Committees

to be established during the next years (approvals 2015-2016)

Macrophage subsets Subcommittee

Suggested Chair: Peter J Murray (Memphis, USA)

Recent publication: Murray PJ, Allen JE, Biswas SK, Fisher EA, Gilroy DW, Goerdts S, Gordon S, Hamilton JA, Ivashkiv LB, Lawrence T, Locati M, Mantovani A, Martinez FO, Mege JL, Mosser DM, Natoli G, Saeij JP, Schultze JL, Shirey KA, Sica A, Suttles J, Udalova I, van Ginderachter JA, Vogel SN, Wynn TA. Macrophage activation and polarization: nomenclature and experimental guidelines. *Immunity*. 2014;41:14-20.

Innate lymphocytes subsets

Chair to be determined

Recent publication: Spits H, Artis D, Colonna M, Diefenbach A, Di Santo JP, Eberl G, Koyasu S, Locksley RM, McKenzie AN, Mebius RE, Powrie F, Vivier E. Innate lymphoid cells—a proposal for uniform nomenclature. *Nat Rev Immunol*. 2013;13:145-9.

Suggestion for new Nomenclature Subcommittees by the members of the IUIS Council will be welcome.