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Lecture

IMGT-ONTOLOGY: a must for integrative immunogenetics and immunoinformatics

What is an ontology? Why was IMGT-ONTOLOGY needed? What is immunogenetics and what does IMGT-ONTOLOGY bring to that science? What is immunoinformatics and what does IMGT-ONTOLOGY bring to this field?

These are a few of the questions which will be addressed. We will define four of the major IMGT-ONTOLOGY concepts (IDENTIFICATION, DESCRIPTION, CLASSIFICATION and NUMEROTATION) taking as examples the antigen receptors. These molecules, immunoglobulins (or antibodies) and T cell receptors, are key molecular components of the adaptive immune response that characterizes the vertebrate species. Their huge diversity is inherent to the particularly complex and unique molecular synthesis of the antigen receptor chains. We will describe how the IMGT-ONTOLOGY concepts have allowed to standardize and manage the immunogenetics data and to develop IMGT®, the international ImMunoGeneTics information system® (<http://imgt.cines.fr>), the international reference in immunogenetics and immunoinformatics. We will show that IMGT-ONTOLOGY, a must for integrative immunogenetics and immunoinformatics, is also a paradigm for any ontology in Life Sciences.

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