World Immune Regulation Meeting II (WIRM 2008) Davos, March 16-20, 2008

IMGT Collier de Perles, a new look for IG, TR and other IgSF, MHC and other MhcSF in immune regulation

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IMGT®, the international ImMunoGeneTics information system®, http://imgt.cines.fr, is a high-quality integrated knowledge resource, specialized in the immunoglobulins (IG), T cell receptors (TR), major histocompatibility complex (MHC), and related proteins of the immune system (RPI) belonging to the IgSf and MhcSF. The data coherence in IMGT is based on IMGT-ONTOLOGY, the first ontology in immunogenetics and immunoinformatics. One of the breakthrough was the implementation of the IMGT unique numbering for V-DOMAIN and C-DOMAIN (IG and TR) and for G-DOMAIN (MHC), based on the IMGT-ONTOLOGY concepts of numerotation. Standardized 2D graphical representations or IMGT Colliers de Perles have been extended to the V-LIKE-DOMAIN and C-LIKE-DOMAIN of the IgSF other than IG and TR, and to the G-LIKE-DOMAIN of the MhcSF other than MHC. By bridging the gap between sequences and structures, IMGT Colliers de Perles provide a new look in immune regulation.