

IMGT Repertoire Sequences

Alignments of alleles

Alignments of alleles are nucleotide and amino acid alignments of the core (V-REGION, D-REGION, J-REGION and C-REGION) of all immunoglobulin (IG) and T cell receptor (TR) genes which have, at least, one open reading frame (ORF) or one functional allele. Alignments of alleles are displayed with gaps according to the IMGT unique numbering. All known sequences for the different alleles are displayed by comparison to the IMGT reference sequence of allele *01.

Tables of alleles

Tables of alleles show the description of allelic polymorphisms for IG and TR V-REGION, D-REGION, J-REGION or C-REGION. Allele names are defined at the "species" level.

Protein displays

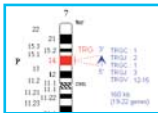
Protein displays are alignments of translated sequences of IG, TR and major histocompatibility complex (MHC).

Allotypes Isotypes

Allotypes and isotypes provide information that bridges the gap between serological markers and genes and alleles. Isotypes are IG chains encoded by genes present in all individuals of a same species. Isotypes of the constant domain are a criteria of the identification of the IG or TR chain types. This does not exclude that these same IG or TR chain be characterized by different isotypes of the variable domain. Allotypes are encoded by alleles of a gene and differ between individuals.

Pommié, C. et al., *J. Mol. Recognit.*, 17, 17-32 (2004)
Lefranc, M.-P. et al., *In Silico Biology*, 5, 45-60 (2005)

Genome



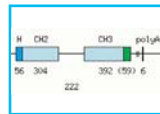
Chromosomal localizations

Gene positions

Correspondence between species



Locus representations



Gene exon/intron organization

Correspondence between nomenclatures

Gene tables

Potential germline repertoires



Clans

Duroux, P. et al., *Biochimie*, 90, 570-583 (2008)

2D and 3D structure analysis



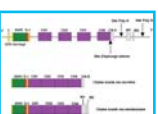
IMGT Colliers de Perles 3D representation FR-IMGT and CDR-IMGT

Kaas, Q. et al., *Brief. Funct. Genomic Proteomic*, 6, 253-264 (2007)

IMGT Colliers de Perles are 2D graphical representations based on the IMGT unique numbering. They are provided for the V-REGION, V-DOMAIN and C-DOMAIN of the IG and TR, the V-LIKE-DOMAIN and C-LIKE-DOMAIN of proteins other than IG or TR, the G-DOMAIN of the MHC, and the G-LIKE-DOMAIN of the proteins other than MHC.

IMGT Colliers de Perles and 3D representations of IG, TR and MHC domains allow to bridge the gap between sequences and 3D structures and to delimit standardized framework regions (FR-IMGT) and complementarity determining regions (CDR-IMGT) of the V type domains.

IMGT Other Web resources



IMGT Scientific chart IMGT Index IMGT Bloc-notes IMGT Education

Lefranc, M.-P. et al., *Nucl. Acids Res.*, 37, D1006-D1012 (2009)

The IMGT Medical page The IMGT Veterinary page The IMGT Biotechnology page The IMGT Immunoinformatics page

