





## IMGT®, the international ImMunoGeneTics information system®

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

- IMGT® is a high-quality integrated knowledge resource specialized in the immunoglobulins (IG), T cell receptors (TR) and major histocompatibility complex (MHC) of human and other vertebrate species, and in the immunoglobulin superfamily (IgSF), MHC superfamily (MhcSF) and related proteins of the immune system (RPI).
- Created in 1989 by Marie-Paule Lefranc (Université Montpellier 2 and CNRS), a European project since 1990, a CNRS registered mark (United States, Canada, Europe), RIO platform since 2001 and IBiSA platform since 2007.
- IMGT® is the international reference in Immunogenetics and Immunoinformatics.
- IMGT® consists of databases, interactive tools and Web resources.
- Based on the concepts of IMGT-ONTOLOGY, IMGT® bridges the gap between sequences, genomes and 3D structures and provides the international standards for antibody engineering and antibody humanization.

### IMGT tools


#### Sequence analysis

-  **IMGT/V-QUEST**  
LIGM  
Brochet, X. et al., *Nucl. Acids Res.*,  
36, W503-W508 (2008)
-  **IMGT/JunctionAnalysis**  
LIGM  
Yousfi Monod, M. et al., *Bioinformatics*,  
20, 1379-1385 (2004)
-  **IMGT/Allele-Align**  
LIGM  
Lefranc, M.-P., *Molecular Immunology*,  
40, 647-660 (2004)
-  **IMGT/PhyloGene**  
LIGM  
Elemento, O. and Lefranc, M.-P.,  
*Dev. Comp. Immunol.*, 27, 763-779 (2003)



#### Genome analysis

-  **IMGT/GeneSearch**  
**IMGT/GeneView**  
**IMGT/LocusView**  
LIGM  
Lefranc, M.-P., *Molecular Immunology*,  
40, 647-660 (2004)
-  **IMGT/GeneInfo**  
TIMC and ICH (Grenoble)  
Baum, P. et al., *Nucl. Acids Res.*,  
7, 224 (2006)

#### 3D structure analysis

-  **IMGT/StructuralQuery**  
LIGM  
Kaas, O. et al., *Nucl. Acids Res.*,  
32, D208-D210 (2004)

### Books


-  Lefranc, M.-P. and Lefranc, G.,  
The Immunoglobulin FactsBook,  
Academic Press, 458 pages (2001)
-  Lefranc, M.-P. and Lefranc, G.,  
The T cell receptor FactsBook,  
Academic Press, 398 pages (2001)

### IMGT databases


#### Sequences

-  **IMGT/LIGM-DB**  
IG and TR from human and 234  
other vertebrate species  
LIGM  
Giudicelli, V. et al., *Nucl. Acids Res.*,  
34, D781-D784 (2006)
-  **IMGT/PRIMER-DB**  
IG and TR oligonucleotides  
LIGM  
Giudicelli, V. et al., *Nucl. Acids Res.*,  
34, D781-D784 (2006)
-  **IMGT/MHC-DB**  
HLA and MHC/NHP  
ANRI and BPRC  
Robinson, J. et al., *Nucl. Acids Res.*,  
31, 311-314 (2003)

#### Genome

-  **IMGT/GENE-DB**  
The international reference for IG  
and TR gene and allele nomenclature  
LIGM  
Giudicelli, V., *Nucl. Acids Res.*,  
33, D256-D261 (2005)  
Lefranc, M.-P., WHO-IUIS Nomenclature  
Subcommittee for Immunoglobulins and T  
cell receptors report, *Immunogenetics*,  
59, 899-902 (2007)  
Lefranc, M.-P., *Antibody engineering*,  
*Methods Mol. Biol.*, 248, 27-49 (2004)

#### 2D and 3D structures





-  **IMGT/3Dstructure-DB**  
IG, TR, MHC and RPI structures  
LIGM  
Ehrenmann, F. et al., *Nucl. Acids Res.*,  
38, January Database issue 2010

### IMGT/LIGM-DB other accesses




- SRS: EBI (UK), NIAS DNA Bank (Japan), DKFZ (Germany), CEINGE (Italy), IUBio (USA), Columbia University (USA)
- ARSA: DDBJ (Japan)
- FTP: CINES (France), EBI (UK)
- BLAST and FASTA: CINES (France), EBI (UK), Institut Pasteur (France)
- LinkOut (nucleotides) at NCBI (USA)

### IMGT Repertoire

#### Sequences

-  **Alignments of alleles**
-  **Tables of alleles**
-  **Protein displays**
-  **Allotypes  
Isotypes, etc.**  
Lefranc, M.-P., *Leukemia*, 17, 260-266 (2003)  
Lefranc, M.-P. et al., *In Silico Biology*, 4, 17-29 (2004)  
Lefranc, M.-P. et al., *In Silico Biology*, 5, 45-60 (2005)







#### Genome

-  **Chromosomal localizations**
-  **Locus representations**
-  **Gene tables, etc.**  
Lefranc, M.-P., *Nucl. Acids Res.*, 37, D1006-D1012 (2009)

#### 2D and 3D structures

-  **2D Colliers de Perles  
3D representations, etc.**  
Pommié, C. et al., *J. Mol. Recognit.*, 17, 17-32 (2004)

### IMGT other Web resources

-  **IMGT Index**
-  **IMGT Scientific chart**
-  **IMGT Education**
-  **IMGT Medical page**
-  **IMGT Veterinary page**
-  **IMGT Bloc-notes**