IMGT® databases

Sequences

IMGT/LIGM-DB
IG and TR from human and 222 other vertebrate species
LIGM (Montpellier)
Lefranc, M.-P.,
Nucleic Acids Res., 34, D781-D784 (2006)

IMGT/PRIMER-DB
IG and TR oligonucleotides
LIGM
Lefranc, M.-P.,
Nucleic. Acids Res., 31, 307-310 (2003)

IMGT/MHC-DB
HLA and MHC/NHP
ANRI, BPRC, hosted at EBI
Robinson, J. et al.,
Nucleic. Acids Res., 31, 311-314 (2003)

IMGT/LIGM-DB is the IMGT® comprehensive database of immunoglobulin (IG) and T cell receptor (TR) nucleotide sequences from human and other vertebrate species, created in 1989. IMGT/LIGM-DB is the first and the largest database of IMGT®. In September 2008, IMGT/LIGM-DB contained 126 667 sequences from 223 species. IMGT/LIGM-DB includes all germline and rearranged IG and TR genomic DNA (gDNA) and complementary DNA (cDNA). The Web interface allows searches according to immunogenetic specific criteria. The specific annotation of cDNA is performed by IMGT/Automat. The unique source of IMGT/LIGM-DB is the European Molecular Biology Laboratory (EMBL), which shares data with GenBank and DDBJ. IMGT/LIGM-DB data are also distributed by anonymous FTP servers at CINES and the European Bioinformatics Institute (EBI), and from many SRS (Sequence Retrieval System) sites.

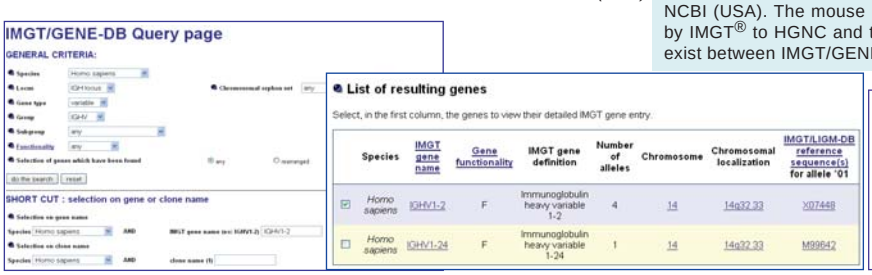
IMGT/PRIMER-DB is the IMGT® oligonucleotide database. IMGT/PRIMER-DB provides standardized information on oligonucleotides (or Primers) and combinations of primers (Sets, Couples) for IG and TR. Primers, Sets and Couples are described in IMGT/PRIMER-DB cards. In September 2008, IMGT/PRIMER-DB contained 1 864 entries. These primers are useful for combinatorial library constructions, scFv, phage display or microarray technologies.

IMGT/MHC-DB contains sequences of the major histocompability complex (MHC) and comprises IMGT/HLA-DB (for Human Leukocyte Antigen or human MHC) and IMGT/MHC-NHP (for MHC of nonhuman primates), hosted at EBI.

Genome

IMGT/GENE-DB
The international reference for IG and TR gene and allele nomenclature
LIGM
Giudicelli, V. et al., Nucleic. Acids Res., 33, D256-D261 (2005)

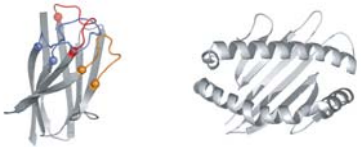
IMGT/GENE-DB is the IMGT® genome database. IMGT/GENE-DB is the official repository of all the IG and TR genes and alleles approved by the World Health Organization (WHO) /International Union of Immunological Societies (IUIS) Nomenclature Subcommittee for IG and TR. In September 2008, IMGT/GENE-DB contained 1 911 IG and TR genes from human, mouse and rat, and 2 909 alleles. All the human IMGT® gene names were approved by the HUGO Nomenclature Committee (HGNC) in 1999 and entered in IMGT/GENE-DB and in Entrez Gene at NCBI (USA). The mouse IG and TR gene names with IMGT reference sequences were provided by IMGT® to HGNC and to the Mouse Genome Informatics (MGI) in July 2002. Reciprocal links exist between IMGT/GENE-DB and HGNC and Entrez Gene databases.



IGHV1-2 allele names	Gene functionality	R	T	Pr	IMGT/LIGM-DB reference sequences		
					Clone names	Accession numbers	Molecule type
IGHV1-2*01	F	+	+	+	V35/VI-2b	X07448	gDNA
IGHV1-2*02	F	+			VI-2	X62106	gDNA
IGHV1-2*03	F				1-1	X92208	gDNA
IGHV1-2*04	F	+			DP-8	Z12310	gDNA

2D and 3D structures

IMGT/3Dstructure-DB
IG, TR, MHC and RPI structures
LIGM
Kaas, Q. et al., Nucleic. Acids Res., 32, D208-D210 (2004)
Ehrenmann, F. et al., Nucleic Acids Res., 38, D301-307 (2010)



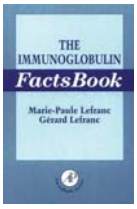
IMGT/3Dstructure-DB is the IMGT® 3D structure database specialized in immunoglobulins (IG), T cell receptors (TR), major histocompatibility complex (MHC) of human and other vertebrates species, immunoglobulin superfamily (IgSF), MHC superfamily (MhcSF) and related proteins of the immune system (RPI) with known 3D structures. In September 2008, IMGT/3Dstructure-DB contained 1 461 atomic coordinate files. These coordinate files extracted from the Protein Data Bank (PDB) are renumbered according to the standardized IMGT unique numbering. The IMGT/3Dstructure-DB cards provide IMGT® annotation on the amino acid sequences, 2D structures (IMGT Colliers de Perles) and 3D structures of IG, TR, MHC and RPI, contact analysis, downloadable IMGT/3Dstructure-DB flat files, visualization tools (Jmol and QuickPDB), and external links.
IMGT Residue@Position cards provide detailed standardized information on the inter- and intra-domain contacts of each residue, based on the IMGT unique numbering.

Monoclonal antibodies

IMGT/mAb-DB
Monoclonal antibodies (IG, mAb) and fusion proteins for immune applications (FPIA)
LIGM

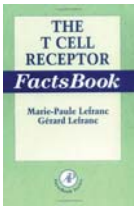
IMGT/mAb-DB is the IMGT® monoclonal antibodies (mAb) database. IMGT/mAb-DB provides a unique expertised resource on monoclonal antibodies with clinical indications. In 2008, amino acid sequences of monoclonal antibodies (IG, mAb) and fusion proteins for immune applications (FPIA) from INN/WHO were entered in IMGT/2Dstructure-DB, a section of IMGT/3Dstructure-DB.

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/LIGM-DB Other accesses

- **SRS**: EBI (UK), DDBJ (Japan), DKFZ (Germany), CEINGE (Italy), NIAS DNA Bank (Japan) or **MRS** BEN (Belgium)
- **FTP**: sequences in flat file format, weekly releases: CINES (France) and EBI (UK)
- **BLAST and FASTA**: CINES (France), EBI (UK)
- **LinkOut** (nucleotide) at NCBI (USA)

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