IMGT/mAb-DB: the IMGT® database for therapeutic monoclonal antibodies



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http://www.imgt.org

6 clinical indication.

clinical domain.

development status and

IMGT/mAb-DB is the monoclonal antibodies database of IMGT®, the international ImMunoGeneTics information system® (http://www.imgt.org) that is the global reference in immunogenetics and immunoinformatics.

IMGT/mAb-DB provides a unique expertised resource on immunoglobulins (IG) or monoclonal antibodies (mAb) with clinical indications, and on fusion proteins for immune applications (FPIA). IMGT/mAb-DB is a relational using the open source (http://www.mysql.com) management system database. Since 2008, amino acid sequences of mAb (suffix -mab) and of FPIA (suffix -cept) from the World Health Organization(WHO)/International Nonproprietary Name (INN) Programme have been entered in IMGT®.

Lefranc, M.-P. mAbs, 3:1-2 (2011)

The IMGT/mAb-DB Query page allows requests on several fields. These are organized in 5 sections: IMGT/mAb DB ID INN and other names characteristics and structure specificity (target name and target species)

Your query: IMGT/mAb-DB INN = alemtuzumab

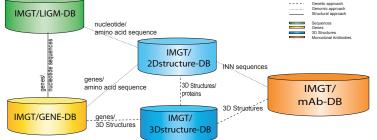
IMGT/mAb-DB ID	INN (International Nonproprietary Name)	INN Num.	INN Prop. list	INN Rec. list	Common name	Proprietary name	IMGT/mAb-DB species	Isotype and format	IMGT/2Dstructure-DB	IMGT/3Dstructure-DB	Specificity (target) [origin]	Origin clone species	Origin clone name	Company	Clinical indication	Development	Regulatory agency status and year	Application	Clinical domain	FDA / EMA / NCI number or ATC code
						CAMPATH®								Berlex Inc. (Wayne NJ USA) (US) / Genzyme Corp.	Chronic lymphocytic leukemia (CLL)	Phase M	FDA approval May 2001	Therapeutic	Hematology, Oncology	FDA: (BLA) 103948
11	alemtuzumab	8005	<u>83</u> (2000)	4 <u>5</u> (2001)	Campath-1H, LDP-03	(US) MABCAMPATH® (EU)	Humanized	lgG1ĸ	<u>8005</u>	<u>1bey</u> 1ce1	CD52 [Homo sapiens]	Rattus norvegicus	YTH34.5HL	(Cambridge MA USA) (EU) / Millennium Pharmaceuticals	Kidney transplant rejection	Phase I/II		Diagnostic	Immunology	NCI: <u>C1681</u> Drugnum:
														Inc. (Cambridge MA USA) (EU/US)	Multiple sclerosis (MS)	Phase I/II		Therapeutic	Immunology	702

A guery on a name allows to retrieve the International Nonproprietary Name (INN) and INN lists numbers as provided by the World Health Organization (WHO)/INN Programme, the Common name from literature, the Proprietary name if the antibody or fusion protein for immune application (FPIA) is a registered trademark (symbol).

For each entry, IMGT/mAb-DB provides the origin species (human, rat, murine, humanized or chimeric), the isotype and format, links to IMGT/2Dstructure-DB (amino acid sequences and IMGT Colliers de Perles), links to IMGT/3Dstructure-DB (3D structures), specificity (target), origin clone species and origin clone name.

IMGT/mAb-DB also provides information on company, clinical indication (more than 200 in the database), developement status, organization that approved the drug such as Food and Drugs Administration (FDA) or European Medicines Agency (EMA), application (diagnostic or therapeutic) and clinical domain.

IMGT/mAb-DB: Relations with other IMGT® database

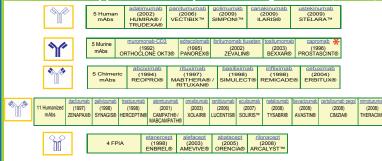


In November 2010, IMGT/mAb-DB contains 343 entries (175 -mab, 15 -cept), 213 have an INN and, among them, 81 have sequences in IMGT/2Dstructure-DB and 14 have 3D structures in IMGT/3Dstructure-DB. By providing links to IMGT/2Dstructure-DB and IMGT/3Dstructure-DB for entries available in these databases, IMGT/mAb-DB facilitates comparative studies of antibodies and FPIA, and of their constitutive chains, even if 3D structures are not yet available.

Link to IMGT/2Dstructure-DB



mAbs and FPIA approved for therapeutic and diagnostic use (in 2010)



In September 2010, IMGT/mAb-DB contains 30 monoclonal antibodies and FPIA on the market: 29 of them (25 mAb and 4 FPIA) are for therapeutic use and 1 (shown with *) is for diagnostic use.

Conjugated or radiolabelled mAbs in IMGT/mAb-DB

Monoclonal antibodies can be used:

conjugated with another molecule

Calicheamicin, a cytotoxic antitumor antibiotic Ex: gentuzumab ozogamicin , MYLOTARG ®

Scientists believe Alexander the Great was killed by calicheamicin, a dangerous compound produced by a bacteria (*Micromonospora echinospora*) found in water. (Squires N., Telegraph, 03 August 2010)

Exotoxin A from Pseudomonas Aeruainosa Ex: oportuzumab monatox, PROXINIUM™ VICINIUM™

Monomethyl auristatin E (MMAE), a synthetic antineoplastic agent Ex: glembatumumab vedotin

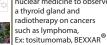
Bouganin, from Bougainvillea spectabilis Willd toxin Ex: citatuzumab bogatox

radiolabelled with an isotope

Half-Life 2.80 days, used in nuclear medicine to observe tumors and LCD manufacturing,

Ex: capromab, PROSTASCINT

→ Iodine-131· Half-Life 8 days, used in nuclear medicine to observ a thyroid gland and radiotherapy on cancers such as lymphoma



In November 2010, IMGT/mAb-DB contains: 17 INN radiolabelled and 11 INN conjugated.



















