

Anti-hCD20-Ga-hlgG1fut

Non-fucosylated human IgG1 monoclonal antibody against human CD20

Catalog code: hcd20ga-mab13, hcd20ga-mab13-03

<https://www.invivogen.com/anti-human-cd20-obinutuzumab>

For research use only, not for diagnostic or therapeutic use

Version 23L06-MM

PRODUCT INFORMATION

Contents: Anti-hCD20-Ga-hlgG1fut purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

- 100 µg: hcd20ga-mab13
- 300 µg (3 x 100 µg): hcd20ga-mab13-03

Target: Human CD20

Antibody type: Type II (second generation anti-hCD20 mAb)

Source: CHO cells

Isotype: Human IgG1

Light chain type: Kappa

Purity: Protein G purified

Formulation: 0.2 µm filtered solution in 68 mM sodium phosphate buffer (pH 7.4) with 91 mM glycine, 5% w/v saccharose and stabilizing agents

Tested applications: Flow cytometry

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage and stability

- Product is shipped at room temperature. Upon receipt, store lyophilized antibody at -20°C.
- Reconstituted antibody is stable for 1 month at 4°C and for 1 year when aliquoted and stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control

- Binding of Anti-hCD20-Ga-hlgG1fut to human CD20 (hCD20) has been tested using flow cytometry.
- The complete sequence of this antibody has been verified.
- The absence of bacterial contamination, lipoproteins and endotoxins, has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

ANTIBODY ISOTYPE COLLECTION

For your research, InvivoGen offers an Anti-hCD20-Ga (type II mAb) antibody family consisting of 3 different Fc isotypes, either native or engineered (IgG1, IgG1fut, and IgA2). These mAbs vary in their potency to mediate effector functions, such as complement-dependent cytotoxicity (CDC), antibody-dependent cellular cytotoxicity (ADCC) and antibody-dependent cellular phagocytosis (ADCP), as presented in the table below.

Effector function	Native isotypes		Engineered isotypes
	IgG1	IgA2	IgG1fut
ADCC	++	+	++++
ADCP	+++	+	+++
CDC	++	-	++

DESCRIPTION

Anti-hCD20-Ga-hlgG1fut mAb features the constant region of the human IgG1 isotype and the variable region of obinutuzumab. The clinically approved mAb, Obinutuzumab (formerly named Afutuzumab or GA101), is a type II (second generation) non-fucosylated, fully humanized IgG1 mAb with improved therapeutic efficacy compared with previously developed type I (first generation) anti-hCD20 mAbs. Obinutuzumab targets the CD20 antigen found on the surface of malignant and normal B lymphocytes. It is a potent inducer of cell death through ADCC and direct-cell death^{1,2}. In contrast to type I anti-CD20 antibodies, Obinutuzumab induces little or no CDC^{2,3}. The FDA has approved this antibody for the treatment of chronic lymphocytic leukaemia (CLL).

Anti-hCD20-Ga-hlgG1 was generated by recombinant DNA technology. It has been produced in CHO cells that are deficient for fucosylation. The absence of fucose residues on the N-glycans of IgG-Fc results in dramatic enhancement of ADCC without any detectable change in antigen binding capability and CDC^{4,5}. This antibody was purified by affinity chromatography with protein G.

As negative controls, InvivoGen provides antibody isotypes targeting *E. coli* β-galactosidase (β-Gal). To help you find the most suitable antibody for your research, InvivoGen also provides type I anti-hCD20 mAbs such as Rituximab and Ofatumumab (see related products).

1. Gagez AL & Cartron G., 2014. Obinutuzumab: a new class of anti-CD20 monoclonal antibody. *Curr Opin Oncol.* 26(5):484-91. 2. Smolej L., 2014. Targeted treatment for chronic lymphocytic leukemia: clinical potential of obinutuzumab. *Pharmgenomics Pers Med.* 8:1-7. 3. Winiarska M. et al., 2011. Molecular mechanisms of the antitumor effects of anti-CD20 antibodies. *Front Biosci (Landmark Ed).* 16:277-306. 4. Yamane-Ohnuki N. & Satoh M., 2009. Production of therapeutic antibodies with controlled fucosylation. *corresponding MAbs.* 1(3): 230-236. 5. Mizushima T., 2011. Structural basis for improved efficacy of therapeutic antibodies on defucosylation of their Fc glycan. *Genes Cells.* 16(11): 1071-1080.

RELATED PRODUCTS

Product	Catalog Code
Anti-β-Gal-hlgG1fut (Negative control)	bgal-mab13
Anti-hCD20-Ga-hlgG1	hcd20ga-mab1
Anti-hCD20-Ga-hlgA2	hcd20ga-mab7
Anti-hCD20-hlgG1 (Rituximab)	hcd20-mab1

Isotype collections for other clinically relevant antibodies, such as Anti-hCTLA4 (Ipilimumab), Anti-hPD1 (Nivolumab) and Anti-HER2 (Trastuzumab) are also available.

For more information visit www.invivogen.com/biosimilar-antibody.

TECHNICAL SUPPORT

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