

# Anti-hCD20-Ga-hIgG1fut

Non-fucosylated human IgG1 monoclonal antibody against human CD20

Catalog code: hcd20ga-mab13

<https://www.invivogen.com/anti-hd20ga-higg1fut>

For research use only, not for diagnostic or therapeutic use

Version 18J29-MM

## PRODUCT INFORMATION

**Contents:** 100 µg purified Anti-hCD20-Ga-hIgG1fut monoclonal antibody (mAb), provided azide-free and lyophilized.

**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. Store lyophilized antibody at -20 °C. Lyophilized product is stable for 1 year when stored 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-hIgG1fut 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-hIgG1fut 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<sup>1,2</sup>. In contrast to type I anti-CD20 antibodies, Obinutuzumab induces little or no CDC<sup>2,3</sup>. The FDA has approved this antibody for the treatment of chronic lymphocytic leukaemia (CLL).

Anti-hCD20-Ga-hIgG1 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<sup>4,5</sup>. 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 glycans. *Genes Cells.* 16(11): 1071-1080.

## RELATED PRODUCTS

Product	Catalog Code
Anti-β-Gal-hIgG1fut (Negative control)	bgal-mab13
Anti-hCD20-Ga-hIgG1	hcd20ga-mab1
Anti-hCD20-Ga-hIgA2	hcd20ga-mab7
Anti-hCD20-Of-hIgG1 (Ofatumumab)	hcd20of-mab1
Anti-hCD20-hIgG1 (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 <https://www.invivogen.com/antibody-isotypes>.

### TECHNICAL SUPPORT

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