

# Anti-hCD20-Ga-hIgG1

Human IgG1 monoclonal antibody against human CD20

Catalog code: hcd20ga-mab1

<https://www.invivogen.com/anti-hd20ga-higg1>

For research use only, not for diagnostic or therapeutic use

Version 18K08-MM

## PRODUCT INFORMATION

**Contents:** 100 µg purified Anti-hCD20-Ga-hIgG1 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-hIgG1 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-hIgG1 mAb features the constant region of the human IgG1 isotype and the variable region of obinutuzumab. The clinically approved antibody, 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>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 fucosylation-competent CHO cells and purified by affinity chromatography with protein G. Human IgG1 is the most abundant immunoglobulin present in serum and binds with high affinity to the Fc receptor on phagocytic cells. The human IgG1 isotype displays high CDC, high ADCC, and very high ADCP. Anti-hCD20-Ga-hIgG1 can be used with the non-fucosylated Anti-hCD20-Ga-hIgG1fut to compare the ADCC activity.

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.

## RELATED PRODUCTS

Product	Catalog Code
Anti-β-Gal-hIgG1 (Negative control)	bgal-mab1
Anti-hCD20-Ga-hIgG1Fut (Obinutuzumab)	hcd20ga-mab13
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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