

Anti-hCD20-hIgG1NQ

Non-glycosylated monoclonal human IgG1 antibody against human CD20

Catalog code: hcd20-mab12, hcd20-mab12-03

<https://www.invivogen.com/anti-human-cd20-igg1nq-rituximab>

For research use only, not for diagnostic or therapeutic use

Version 23L21-MM

PRODUCT INFORMATION

Contents: Anti-hCD20-hIgG1NQ purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

hcd20-mab12: 100 µg Anti-hCD20-hIgG1NQ

hcd20-mab12-03: 3 x 100 µg Anti-hCD20-hIgG1NQ

Target: Human CD20

Clonality: Monoclonal antibody

Isotype: Human IgG1NQ, kappa

Source: CHO cells

Formulation: 0.2 µm filtered solution in sodium phosphate buffer with glycine, saccharose, and stabilizing agents

Purity: Purified by affinity chromatography with protein G

Storage and stability

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

Quality control

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

DESCRIPTION

Anti-hCD20-hIgG1NQ features the variable region of rituximab and amutated constant region of the human IgG1 isotype. Rituximab is a mouse/human chimeric monoclonal antibody that targets the CD20 antigen found on the surface of malignant and normal B lymphocytes. Binding of rituximab to CD20 results in cell destruction through different mechanisms including direct signaling of apoptosis, complement activation and cell-mediated cytotoxicity. Rituximab has been approved by the FDA for the treatment of various lymphoid malignancies, including B-cell non-Hodgkin's lymphoma and B-cell chronic lymphocytic leukemia.

Anti-hCD20-hIgG1NQ contains a N-glycosylation mutation of the constant region of the human IgG1 where potential asparagine (N) glycosylation sites are substituted by glutamine (Q) residues resulting in the production of a non-glycosylated antibody. Glycosylation of an antibody has no effect on antigen binding but is essential for Fc receptor-mediated activity¹. In non-glycosylated antibodies the effector mechanisms mediated through the Fc receptors types (FcγRI, FcγRII, FcγRIII) and the C1q component of complement are severely compromised or ablated². Anti-hCD20-hIgG1NQ was generated by recombinant DNA technology. It has been produced in CHO cells and purified by affinity chromatography with protein G.

1. Arnold J. et al., 2007. The impact of glycosylation on the biological function and structure of human immunoglobulins. Annu Rev Immunol 25:21-50.

2. Jefferis R., 2009. Glycosylation as a strategy to improve antibody-based therapeutics. Nat Rev Drug Discov. 8(3):226-34.

APPLICATIONS

Anti-hCD20-hIgG1NQ can be used with anti-hCD20-hIgG1 to compare the ADCC activity.

ANTIBODY ISOTYPE COLLECTION

For your research, InvivoGen provides an anti-hCD20 isotype collection. This collection consists of monoclonal antibodies comprising the variable region of rituximab, and the constant region of human (h) and mouse (m) isotypes; hIgG1, hIgG1fut, hIgG1NQ, hIgG2, hIgG3, hIgG4, hIgG4(S228P), hIgA2, mIgG1, and mIgG2a. The isotypes differ in their functional locations and effector functions, such as complement-dependent cytotoxicity (CDC) and antibody-dependent cell-mediated cytotoxicity (ADCC), as presented in the table below.

Effector functions	Human isotypes							Mouse isotypes	
	IgG1	IgG1 fut	IgG1 NQ	IgG2	IgG3	IgG4 and IgG4 (S228P)	IgA2	IgG1	IgG2a
ADCC	++	++++	-	+/-	++	+/-	+	+/-	++
ADCP	+++	+++	-	+/-	++	+	+	+	+++
CDC	++	++	+/-	+	+++	-	-	-	++

METHODS

Antibody resuspension (100 µg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

- Add 1 ml of sterile water to 100 µg and gently pipette until completely resuspended.

RELATED PRODUCTS

Product	Catalog Code
Anti-hCD20-hIgG1	hcd20-mab1
Anti-hCD20-hIgG1fut	hcd20-mab13
Anti-hCD20-hIgG2	hcd20-mab2
Anti-hCD20-hIgG3	hcd20-mab3
Anti-hCD20-hIgG4	hcd20-mab4
Anti-hCD20-hIgG4 (S228P)	hcd20-mab14

Other antibody isotype families are available, such as Anti-hTNF-α, Anti-hPD1, and Anti-hRANKL. For more information, please visit www.invivogen.com/biosimilar-antibody-isotypes.

TECHNICAL SUPPORT

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