

# Anti-hCD27-hIgG1NQ

Non-glycosylated, recombinant human monoclonal IgG1 antibody against human CD27

Catalog code: hcd27-mab12, hcd27-mab12-03

<https://www.invivogen.com/anti-human-cd27-varlilumab-isotype-mabs>

For research use only

Version 23L20-MM

## PRODUCT INFORMATION

**Contents:** Anti-hCD27-hIgG1NQ purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

**hcd27-mab12:** 100 µg Anti-hCD27-hIgG1NQ

**hcd27-mab12-03:** 3 x 100 µg Anti-hCD27-hIgG1NQ

**Target:** Human cluster of differentiation 27 (hCD27)

**Variable region biosimilar:** Varlilumab

**Source:** Chinese hamster ovary (CHO) cells

**Isotype:** Human IgG1, kappa

**Purification:** By affinity chromatography with protein G

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

**Tested application:** ELISA, flow cytometry

### Antibody resuspension (0.1 mg/ml)

*Note:* Ensure you see the lyophilized pellet before resuspension.

Resuspend Anti-hCD27-hIgG1NQ with sterile water:

Add 1 ml of sterile water per 100 µg vial.

### Storage and stability

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

### Quality control

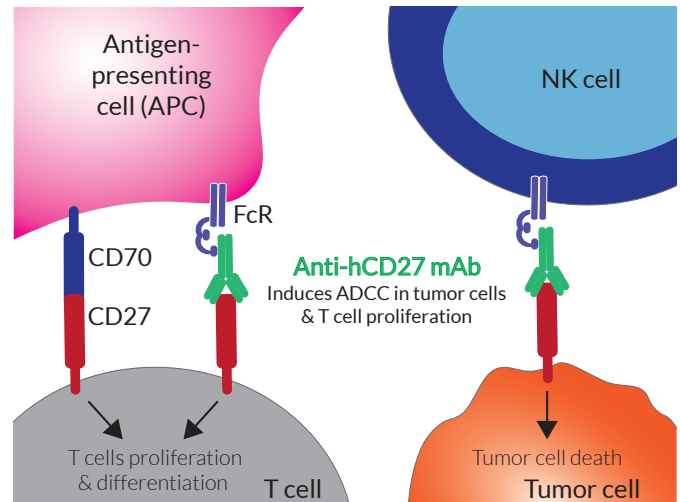
- Binding of Anti-hCD27-hIgG1NQ to human CD27 has been validated using flow cytometry and ELISA.
- The complete sequence of the antibody has been verified.
- Absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

## PRODUCT DESCRIPTION

Anti-hCD27-hIgG1NQ is a recombinant monoclonal antibody (mAb) featuring the variable region of varlilumab which targets the human (h)CD27, and a non-glycosylated constant region of hIgG1 isotype. Anti-hCD27-hIgG1NQ was generated by recombinant DNA technology, produced in CHO cells, and purified by affinity chromatography with protein G.

### IgG1fut Isotype effector function

Anti-hCD27-hIgG1NQ contains a N-glycosylation mutation in the constant region of human IgG1. Thus, 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 activity. Therefore, the effector function of Anti-hCD27-hIgG1NQ is severely compromised (see next page).



## BACKGROUND

CD27 (cluster of differentiation 27) is a member of the TNFR family and the receptor for CD70 (aka CD27L). The CD27-CD70 costimulatory receptor-ligand pair plays an important role in immune regulation. In concert with the T cell receptor crosslinking, it promotes T cell activation, proliferation, survival, maturation of effector capacity, and T cell memory<sup>1-2</sup>. It is constitutively expressed on the majority of mature T cells, but also on different types of cancers.

In leukemia, CD27 signaling leads to the induction of different pathways, supporting stemness and tumor cell proliferation<sup>3</sup>. A human mAb directed against CD27 named varlilumab (also CDX-1127, 1F5) has entered clinical trials after showing preclinical efficacy. It is able to activate CD27-positive T cells, while mediating the killing of CD27-expressing tumor cells<sup>4</sup>.

1. Jacobs, J. *et al.*, 2015. CD70: An emerging target in cancer immunotherapy. *Pharmacol Ther* 155, 1-10.
2. Flieswasser, T., *et al.* 2022. The CD70-CD27 axis in oncology: the new kids on the block. *J Exp Clin Cancer Res* 41, 12.
3. Sanborn RE, *et al.*, 2022. Safety, tolerability and efficacy of agonist anti-CD27 antibody (varlilumab) administered in combination with anti-PD-1 (nivolumab) in advanced solid tumors. *J Immunother Cancer*. Aug;10(8):e005147.
4. Vitale LA, *et al.*, 2012. Development of a human monoclonal antibody for potential therapy of CD27-expressing lymphoma and leukemia. *Clin Cancer Res*. 2012 Jul 15;18(14):3812-21.

### TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Asia: +852 3622-3480

E-mail: [info@invivogen.com](mailto:info@invivogen.com)

## ANTIBODY ISOTYPE COLLECTION

For your research, InvivoGen provides an **Anti-hCD27 isotype family**. This collection consists of mAbs comprising the variable region of anti-human CD27, and differing constant regions of both native and engineered human isotypes. These isotypes differ in their functional and effector functions, such as antibody-dependent cell-mediated cytotoxicity (ADCC), antibody-dependent cellular phagocytosis (ADCP), and complement dependent cytotoxicity (CDC), as presented in the table below. The Anti-hCD27 isotype family will assist you in the study of the various effector functions of the different isotypes, and help you determine which isotype is the most suitable for your application.

### Effector functions of both native and engineered IgG1 isotypes

Effector functions	Native	Engineered	
	IgG1	IgG1NQ	IgG1fut
ADCC	++	-	++++
ADCP	+++	-	+++
CDC	++	+/-	++

## RELATED PRODUCTS

Product	Catalog Code
Anti-hCD27-hIgG1	hcd27-mab1
Anti-hCD27-hIgG1fut	hcd27-mab13
Anti-hPD1-Pem-hIgG1	hpd1pe-mab1
Anti-hPD1-Ni-hIgG1	hpd1ni-mab1
Anti- $\beta$ -Gal-hIgG1	bgal-mab1
Anti- $\beta$ -Gal-hIgG1fut	bgal-mab13
Jurkat-Lucia™ NFAT-CD16 cells	jktl-nfat-cd16
Raji-Null cells	raji-null
QUANTI-Luc™ 4 Lucia/Gaussia	rep-qlc4lg1

For a complete list of clinically relevant biosimilar mAbs provided by InvivoGen, please visit <https://www.invivogen.com/antibody-isotypes>

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InvivoGen Europe: +33 (0) 5-62-71-69-39  
InvivoGen Asia: +852 3622-3480  
E-mail: [info@invivogen.com](mailto:info@invivogen.com)