

Anti-hCTLA4-hIgG1fut

Non-fucosylated monoclonal human IgG1 antibody against human CTLA-4

Catalog code: hctla4-mab13, hctla4-mab13-03

<https://www.invivogen.com/anti-human-ctla4-igg1fut-ipilimumab>

For research use only, not for diagnostic or therapeutic use

Version 23L20-MM

PRODUCT INFORMATION

Contents: Anti-hCTLA4-hIgG1fut purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

hctla4-mab13: 100 µg Anti-hCTLA4-hIgG1fut

hctla4-mab13-03: 3 x 100 µg Anti-hCTLA4-hIgG1fut

Specificity: cytotoxic T-lymphocyte-associated protein 4 (CTLA-4)

Isotype: Human IgG1

Light chain type: kappa

Clonality: Monoclonal

Source: CHO cells

Purity: Protein G purified

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

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 CTLA-4 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.

APPLICATIONS

Anti-hCTLA4-hIgG1fut can be used with anti-hCTLA4-hIgG1 to compare the ADCC activity.

ANTIBODY ISOTYPE COLLECTION

For your research, InvivoGen provides an anti-hCTLA4 isotype family. This isotype family consists of monoclonal antibodies comprising the variable region of ipilimumab, and the constant region of three different human isotypes; IgG1, IgG1fut, and IgG4(S228P). 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 function	IgG1	IgG1fut	IgG4(S228P)
ADCC	++	++++	+/-
ADCP	+++	+++	+
CDC	++	++	-

DESCRIPTION

Anti-hCTLA4-hIgG1fut features the constant region of the human IgG1 isotype and the variable region of ipilimumab. Ipilimumab is a fully human IgG1 monoclonal antibody that targets CTLA-4 (also known as CD152), a negative regulator of T cell activation. By binding CTLA-4, ipilimumab inhibits negative signals that physiologically downregulate T cell activation and exerts its therapeutic activity by upregulating the antitumor activity of T lymphocytes^{1,2}. In addition, ipilimumab induces antibody-dependent cell-mediated cytotoxicity (ADCC) and TNF- α production³. Ipilimumab has been approved by the FDA for the treatment of unresectable or metastatic melanoma. Ipilimumab is undergoing clinical trials for other types of cancers, including lung cancer⁴.

Anti-hCTLA4-hIgG1fut is a non-fucosylated antibody. The absence of the fucose residue from the N-glycans of IgG-Fc results in dramatic enhancement of antibody-dependent cellular cytotoxicity (ADCC) without any detectable change in complement-dependent cytotoxicity (CDC) or antigen binding capability^{5,6}.

Anti-hCTLA4-hIgG1fut was generated by recombinant DNA technology. It has been produced in CHO cells that are deficient for fucosylation and purified by affinity chromatography with protein G.

1. Grosso JF. & Jure-Kunkel MN., 2013. CTLA-4 blockade in tumor models: an overview of preclinical and translational research. *Cancer Immun.* 13:5. **2. Maio M. et al., 2013.** Update on the role of ipilimumab in melanoma and first data on new combination therapies. *Curr Opin Oncol.* 25(2):166-72. **3. Laurent S. et al., 2013.** The engagement of CTLA-4 on primary melanoma cell lines induces antibody-dependent cellular cytotoxicity and TNF- α production. *J Transl Med.* 11:108. **4. Tomasini P., 2012.** Ipilimumab: its potential in non-small cell lung cancer. *Ther Adv Med Oncol.* 4(2): 43-50. **5. Yamane-Ohnuki N. & Satoh M., 2009.** Production of therapeutic antibodies with controlled fucosylation. *corresponding MAbs.* 1(3): 230-236. **6. Mizushima T., 2011.** Structural basis for improved efficacy of therapeutic antibodies on defucosylation of their Fc glycans. *Genes Cells.* 16(11): 1071-1080.

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.
- Prepare aliquots and store at -20°C until required.

RELATED PRODUCTS

Product	Catalog Code
Anti- β -Gal-hIgG1fut (isotype control)	bgal-mab13
Anti-hCTLA4-hIgG1	hctla4-mab1

Other antibody isotype families are available, such as Anti-hCD20, Anti-hPD1 and Anti- β Gal (control).

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

TECHNICAL SUPPORT

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