

Anti-hCTLA4-hIgG1fut

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

Catalog # hctla4-mab13

<http://www.invivogen.com/anti-hctla4-higg1fut>

For research use only, not for diagnostic or therapeutic use

Version # 17C23-MM

PRODUCT INFORMATION

Content: 100 µg anti-hCTLA4-hIgG1fut, purified antibody, provided azide-free and lyophilized

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.

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage

- Product is shipped at room temperature. Store lyophilized antibody at -20 °C. Lyophilized product is stable for 1 year.

- 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 of anti-hCTLA4-hIgG1fut 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.

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.

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, IgG4, and IgA2. 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.

Name	Description
Human IgG1	Most abundant IgG present in serum High CDC, high ADCC
Human IgG4	Least common IgG present in serum No CDC, low ADCC
Human IgA2	Major class in secretions, oligomeric forms, highly resistant to enzymatic degradation. No CDC, low ADCC

RELATED PRODUCTS

Product	Catalog Code
Anti-hCTLA4-hIgA2	hctla4-mab7
Anti-hCTLA4-hIgG4 (S228P)	hctla4-mab14

Other antibody isotype families are available, such as Anti-hCD20, Anti-hPD1 and Anti-βGal (control). For more information visit www.invivogen.com/antibody-isotypes.

TECHNICAL SUPPORT

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