

# Anti-hCTLA4-hIgG4 (S228P)

Monoclonal human IgG4 antibody against human CTLA-4

Catalog code: hctla4-mab14, hctla4-mab14-03

<https://www.invivogen.com/anti-human-ctla4-igg4s228p-ipilimumab>

For research use only, not for diagnostic or therapeutic use

Version 23L20-MM

## PRODUCT INFORMATION

**Contents:** Anti-hCTLA4-hIgG4 (S228P) purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

**hctla4-mab14:** 100 µg Anti-hCTLA4-hIgG4 (S228P)

**hctla4-mab14-03:** 3 x 100 µg Anti-hCTLA4-hIgG4 (S228P)

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

**Isotype:** Human IgG4 (S228P)

**Source:** CHO cells

**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 of anti-hCTLA4-hIgG4 (S228P) 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-hIgG4 (S228P) features the constant region of the human IgG4 (S228P) 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<sup>1,2</sup>. In addition, ipilimumab induces antibody-dependent cell-mediated cytotoxicity (ADCC) and TNF-α production<sup>3</sup>. 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 cancer<sup>4</sup>.

Anti-hCTLA4-hIgG4 (S228P) contains an engineered hinge region mutation (S228P) designed to prevent exchange of IgG4 molecules. Anti-hCTLA4-hIgG4 (S228P) was generated by recombinant DNA technology. It has been produced in CHO cells 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-β production. *J Transl Med.* 11:108. 4. Tomasin P., 2012. Ipilimumab: its potential in non-small cell lung cancer. *Ther Adv Med Oncol.* 4(2): 43-50.

### TECHNICAL SUPPORT

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## 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; 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	++	++	-

## 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-hIgG4 (S228P) (isotype control)	bgal-mab114
Anti-hCTLA4-hIgG1	hctla4-mab1

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

For more information [www.invivogen.com/biosimilar-antibody-isotypes](http://www.invivogen.com/biosimilar-antibody-isotypes).