

hCTLA4-Fc

Soluble human CTLA-4 fused to an IgG1 Fc domain

Cat. code: fc-hctla4

<https://www.invivogen.com/ctla4-fc>

For research use only

Version 24B19-AK

PRODUCT INFORMATION

Content:

- 50 µg of lyophilized hCTLA4-Fc protein
- 1.5 ml endotoxin-free water

Protein construction:

Codon-optimized human CTLA-4 N-terminal extra-cellular domain [K36-D160] with a C-terminal human IgG1 Fc tag

Accession sequence: NP_0052505.2 (native sequence)

Species: Human

Source: CHO cells

Tag: C-terminal human IgG1 Fc

Total protein size: 370 a.a. (secreted form)

Molecular weight: ~ 47 kDa (SDS-PAGE)

Purification: Protein G affinity chromatography

Purity: >97% (SDS-PAGE)

Formulation:

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

Storage:

- Product is shipped at room temperature. Store lyophilized hCTLA4-Fc at -20°C. Lyophilized product is stable for at least 1 year.
- Reconstituted hCTLA4-Fc is stable for 1 month when stored at 4°C and for 1 year when stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control:

- The size and purity of the protein has been confirmed by SDS-PAGE.
- hCTLA4-Fc has been validated by flow cytometry using Raji-APC-hPD-L1 cells, and by ELISA using an Anti-hCTLA4-hIgG1 monoclonal antibody. The potency of hCTLA4-Fc at inhibiting CD80/86-CD28 mediated intracellular signaling has been validated using Jurkat-Lucia™ TCR-hPD-1 reporter cells.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

PRODUCT DESCRIPTION

hCTLA4-Fc is a soluble human CTLA-4 chimera protein generated by fusing the N-terminal extracellular domain of human CTLA-4 (aa 36-160) to the N-terminus of a human IgG1 Fc domain with a cleavable TEV (Tobacco Etch Virus) sequence linker. Thus, depending on your applications, the IgG1 Fc domain can be removed using the TEV protease. hCTLA4-Fc has an apparent molecular weight of ~47 kDa on an SDS-PAGE gel. It is expressed in CHO cells and purified by protein G affinity chromatography.

BACKGROUND

The cytotoxic T-lymphocyte-associated protein 4 (CTLA-4, CD152) is an inhibitory receptor and immune checkpoint expressed by activated and regulatory T cells. It exerts competitive binding to the co-stimulatory receptor CD28 ligands (i.e. CD80 and CD86) expressed by antigen presenting cells. Thereby CTLA-4 upregulation by T cells prevents overstimulation. Anti-CTLA-4 monoclonal antibodies (mAbs), as well as other immune checkpoints targeting mAbs, are extensively investigated to treat various cancers¹⁻³.

1. Wilson, R.A.M. et al. 2018. Immune checkpoint inhibitors: new strategies to checkmate cancer. Clin. Exp. Immunol. 191(2):133-148. **2. Wei, S.C. et al. 2018.** Fundamental mechanisms of immune checkpoint blockade therapy. Cancer Discov. 8(9):1069. **3. Marin-Acevedo J.A. et al. 2018.** Next generation of immune checkpoint therapy in cancer: new developments and challenges. J. Hematol. Oncol. 11(1):39.

APPLICATIONS

hCTLA4-Fc can be used for:

- Screening of high-affinity anti-human CTLA-4 monoclonal antibodies (mAbs) by ELISA
- Screening of anti-human CD80 or CD86 mAbs using competition assays.

The optimal working concentration of hCTLA4-Fc must be determined empirically for a given set of experimental conditions.

METHODS

hCTLA4-Fc resuspension (100 µg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

- Add 500 µl of endotoxin-free water to the 50 µg vial and gently pipette until completely resuspended. Do not vortex.
- Prepare aliquots and store at -20°C or 4°C.

RELATED PRODUCTS

Product	Cat. Code
Jurkat-Raji ICOS/ICOS-L assay	rajkt-hicos
Jurkat ICOS/ICOS-L assay	jktl-icos
hICOS-Fc	fc-hicos
hICOS-L-Fc	fc-hicosl
Jurkat-Raji PD-1/PD-L1 assay	rajkt-hpd1
hPD1-Fc	fc-hpd1
hPD-L1-Fc	fc-hpd1l

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