



## Synonym

CTLA4,CD152

## Source

Biotinylated Human CTLA-4, Fc,Avitag(CT4-H82F3) is expressed from human 293 cells (HEK293). It contains AA Ala 37 - Phe 162 (Accession # [P16410-1](#)).  
Predicted N-terminus: Ala 37

## Molecular Characterization

CTLA-4(Ala 37 - Phe 162) P16410-1	Fc(Pro 100 - Lys 330) P01857	Avi
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This protein carries a human IgG1 Fc tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 41.8 kDa. The protein migrates as 48-60 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

## Labeling

*Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.*

## Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

## Purity

>95% as determined by SDS-PAGE.

## Formulation

Lyophilized from 0.22 µm filtered solution in Tris with Glycine, Arginine and NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

## Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

## Storage

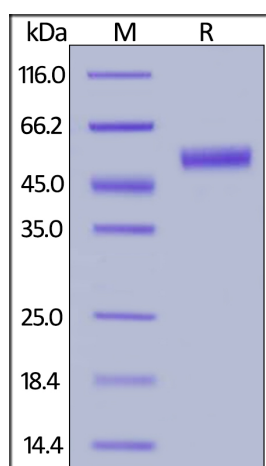
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE

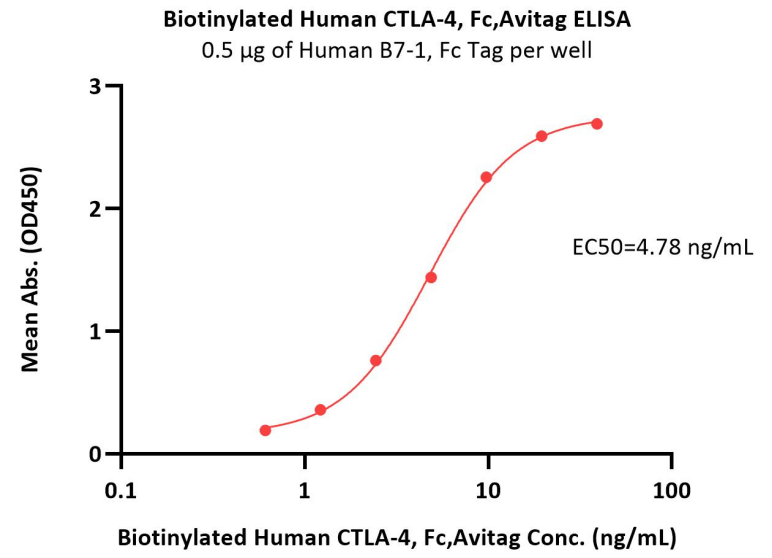
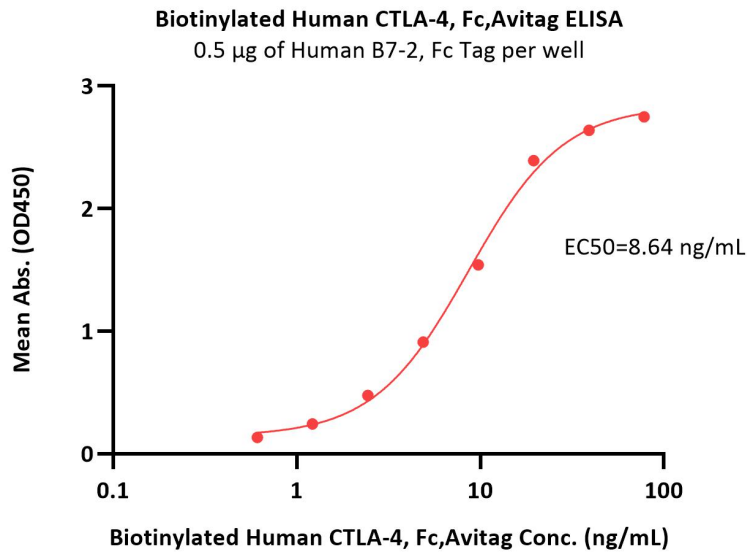


Biotinylated Human CTLA-4, Fc,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

## Bioactivity-ELISA

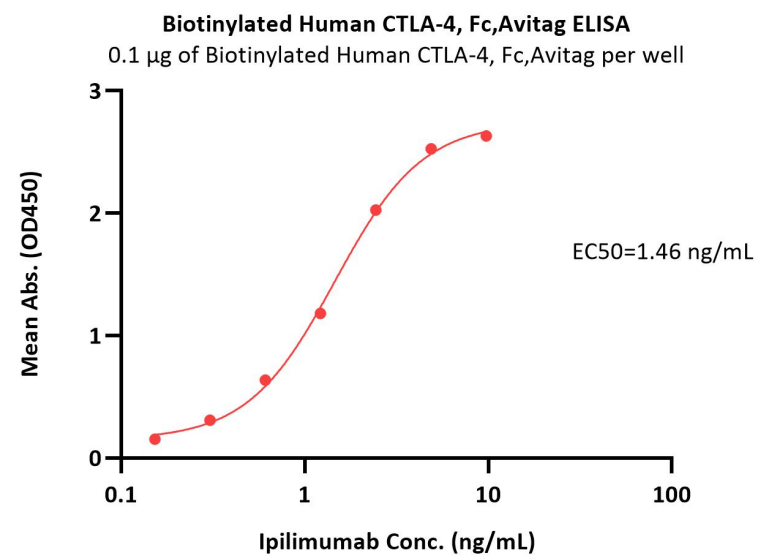
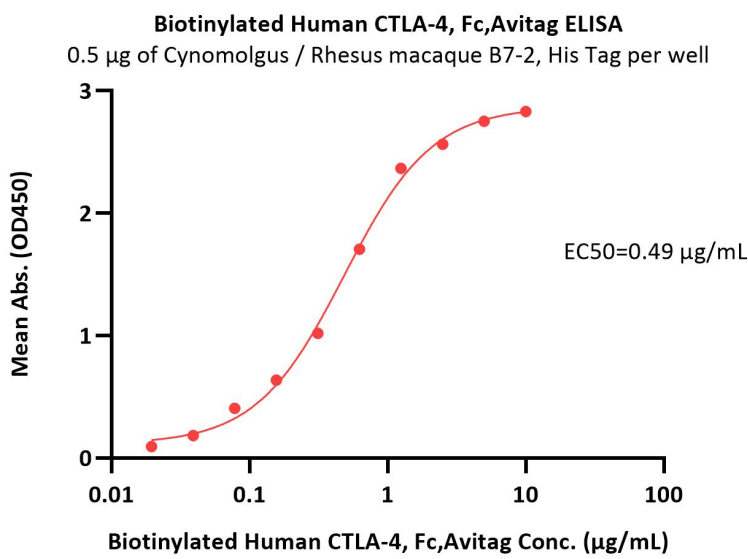
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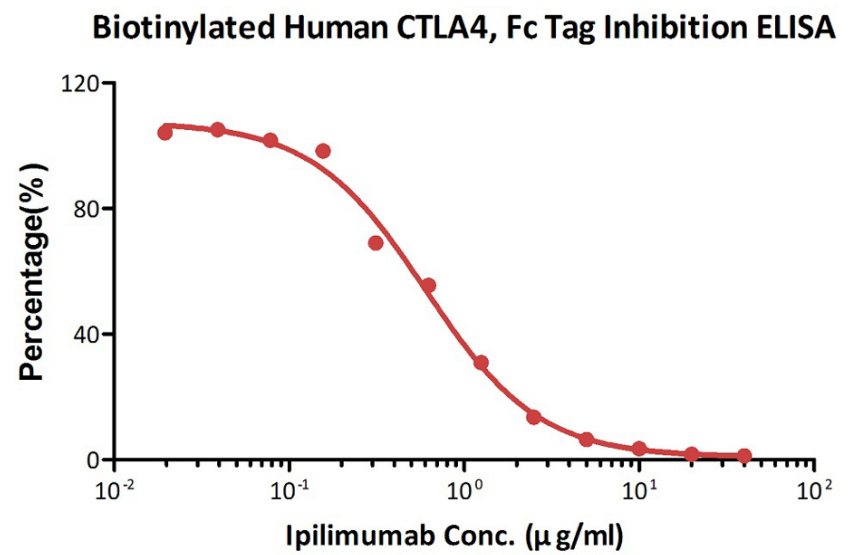
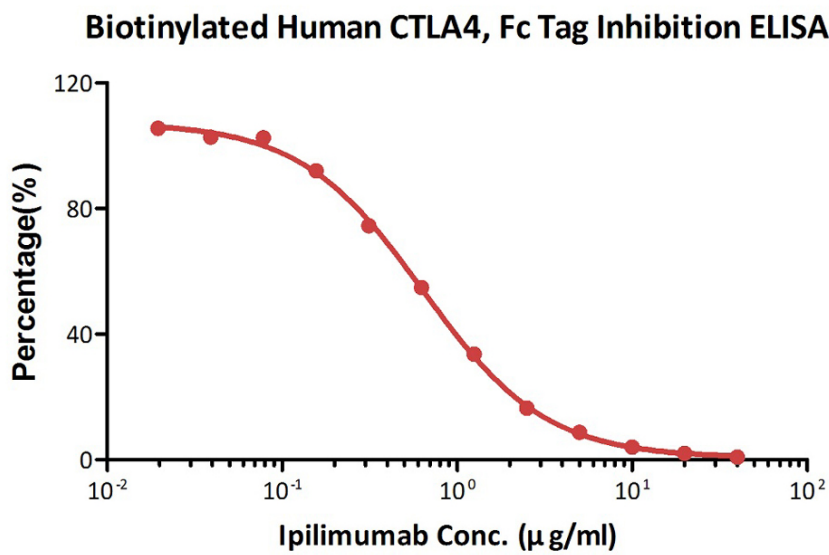
Immobilized Human B7-2, Fc Tag (Cat. No. CD6-H5257) at 5 µg/mL (100 µL/well) can bind Biotinylated Human CTLA-4, Fc,Avitag (Cat. No. CT4-H82F3) with a linear range of 0.6-10 ng/mL (QC tested).

Immobilized Human B7-1, Fc Tag (Cat. No. B71-H5259) at 5 µg/mL (100 µL/well) can bind Biotinylated Human CTLA-4, Fc,Avitag (Cat. No. CT4-H82F3) with a linear range of 0.6-10 ng/mL (Routinely tested).



Immobilized Cynomolgus / Rhesus macaque B7-2, His Tag (Cat. No. CD6-C52H5) at 5 µg/mL (100 µL/well) can bind Biotinylated Human CTLA-4, Fc,Avitag (Cat. No. CT4-H82F3) with a linear range of 0.02-0.625 µg/mL (Routinely tested).

Immobilized Biotinylated Human CTLA-4, Fc,Avitag (Cat. No. CT4-H82F3) at 1 µg/mL (100 µL/well) on Streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate, can bind Ipilimumab with a linear range of 0.2-2 ng/mL (Routinely tested).



Serial dilutions of Ipilimumab neutralizing antibody (1:2 serial dilutions, from 40 µg/mL to 0.019 µg/mL) were added into Human B7-1, Fc Tag (Cat. No. B71-H5259): Biotinylated Human CTLA-4, Fc,Avitag (Cat. No. CT4-H82F3) binding reactions. The assay was performed according to the above described protocol. Background was subtracted from data points before curve fitting.

Serial dilutions of Ipilimumab neutralizing antibody (1:2 serial dilutions, from 40 µg/mL to 0.019 µg/mL) were added into Human B7-2, Fc Tag (Cat. No. CD6-H5257): Biotinylated Human CTLA-4, Fc,Avitag (Cat. No. CT4-H82F3) binding reactions. The assay was performed according to the above described protocol. Background was subtracted from data points before curve fitting.

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## Background

CTLA-4 (Cytotoxic T-Lymphocyte Antigen 4) is also known as CD152 (Cluster of differentiation 152), is a protein receptor that downregulates the immune system. CTLA4 is a member of the immunoglobulin superfamily, which is expressed on the surface of Helper T cells and transmits an inhibitory signal to T cells. The protein contains an extracellular V domain, a transmembrane domain, and a cytoplasmic tail. Alternate splice variants, encoding different isoforms. CTLA4 is similar to the T-cell co-stimulatory protein, CD28, and both molecules bind to CD80 and CD86, also called B7-1 and B7-2 respectively, on antigen-presenting cells. CTLA4 transmits an inhibitory signal to T cells, whereas CD28 transmits a stimulatory signal. Intracellular CTLA4 is also found in regulatory T cells and may be important to their function. Fusion proteins of CTLA4 and antibodies (CTLA4-Ig) have been used in clinical trials for rheumatoid arthritis.

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