Synonym

CTLA4,CD152

Source

Human CTLA-4 Protein, Mouse IgG2a Fc Tag(CT4-H52A4) 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) NP_005205.2	mFc(Glu 98 - Lys 330) P01863

This protein carries a mouse IgG2a Fc tag at the C-terminus. The protein has a calculated MW of 40.6 kDa. The protein migrates as 50 kDa on a SDS-PAGE gel under reducing (R) condition due to glycosylation and 100 kDa under non-reducing (NR) condition.

Endotoxin

Less than 0.1 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in 50 mM Tris, 100 mM Glycine, 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.
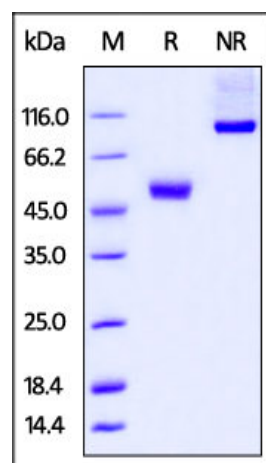
Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.
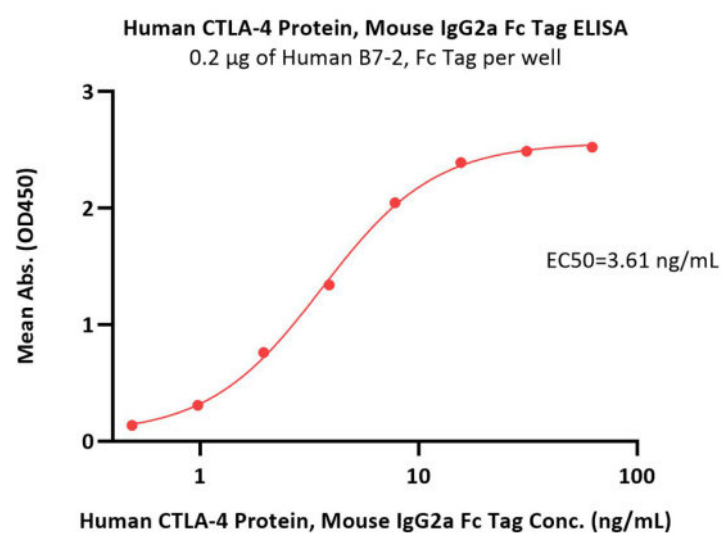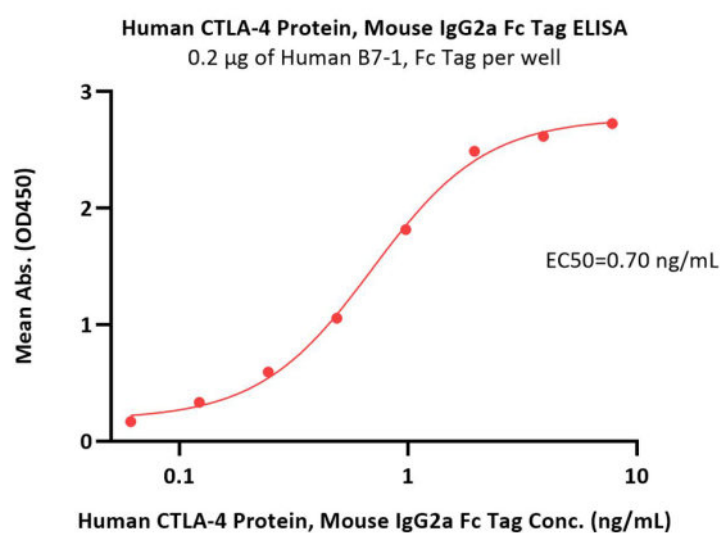
Please avoid repeated freeze-thaw cycles.

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

Human CTLA-4 Protein, Mouse IgG2a Fc Tag on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA

Human CTLA-4 Protein, Mouse IgG2a Fc Tag ELISA
0.2 μg of Human B7-1, Fc Tag per well

EC50=0.70 ng/mL

Human CTLA-4 Protein, Mouse IgG2a Fc Tag ELISA
0.2 μg of Human B7-2, Fc Tag per well

EC50=3.61 ng/mL

Immobilized Human B7-1, Fc Tag (Cat. No. B71-H5259) at 2 μg/mL (100 μL/well) can bind Human CTLA-4 Protein, Mouse IgG2a Fc Tag (Cat. No. CT4-H52A4) with a linear range of 0.06-1 ng/mL (QC tested).

Immobilized Human B7-2, Fc Tag (Cat. No. CD6-H5257) at 2 μg/mL (100 μL/well) can bind Human CTLA-4 Protein, Mouse IgG2a Fc Tag (Cat. No. CT4-H52A4) with a linear range of 0.5-7.8 ng/mL (Routinely tested).

Human CTLA-4 Protein, Mouse IgG2a Fc Tag ELISA
0.5 μg of Ipilimumab per well

EC50=0.60 ng/mL
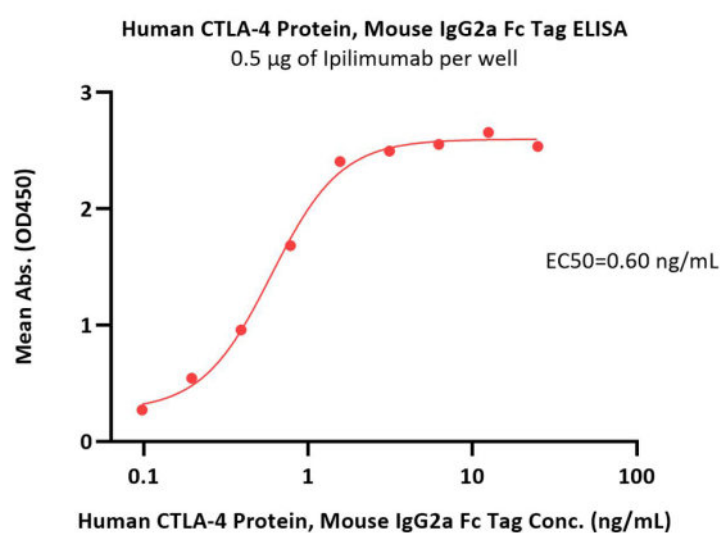
Immobilized Ipilimumab at 5 μg/mL (100 μL/well) can bind Human CTLA-4 Protein, Mouse IgG2a Fc Tag (Cat. No. CT4-H52A4) with a linear range of 0.1-0.8 ng/mL (Routinely tested).

Bioactivity-BLI
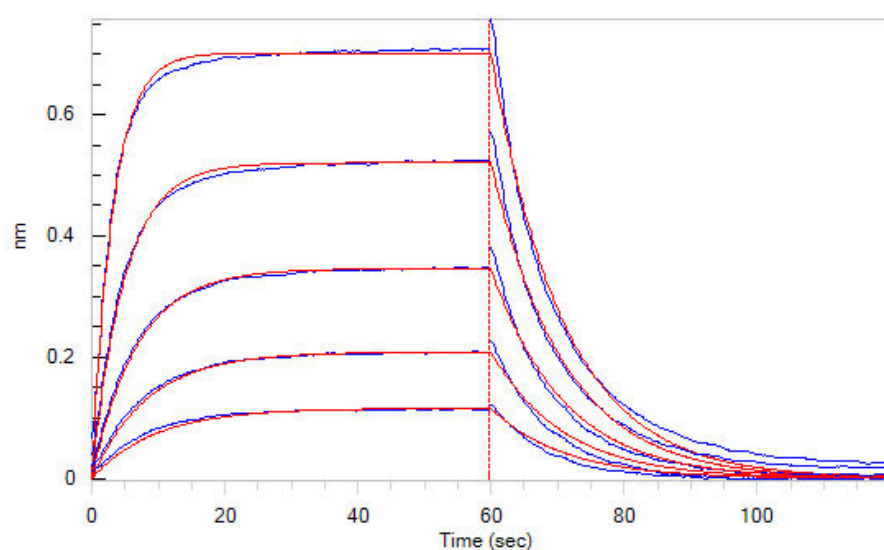
Loaded Human CTLA-4 Protein, Mouse IgG2a Fc Tag (Cat. No. CT4-H52A4) on Protein A Biosensor, can bind Human B7-1, His Tag (Cat. No. B71-H5228) with an affinity constant of 0.52 μM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).
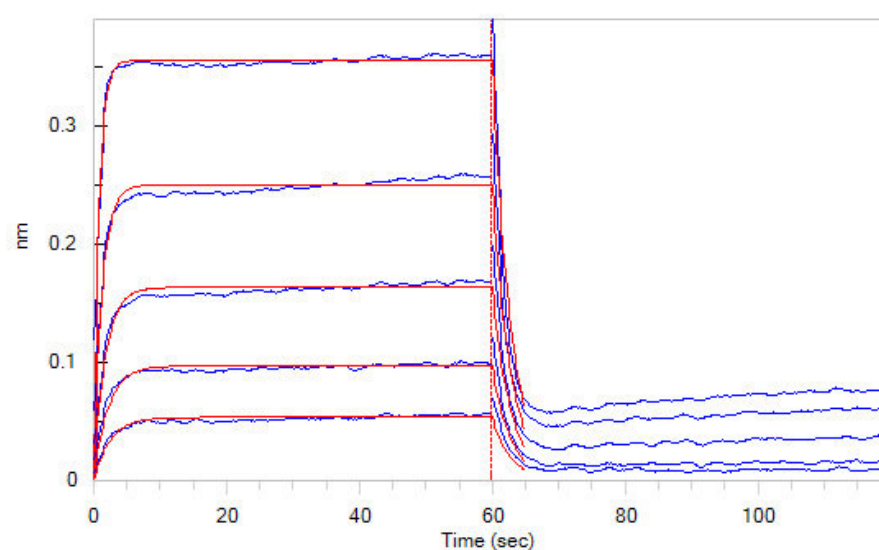
Loaded Human CTLA-4 Protein, Mouse IgG2a Fc Tag (Cat. No. CT4-H52A4) on Protein A Biosensor, can bind Human B7-2, His Tag (Cat. No. CD6-H5223) with an affinity constant of 1.6 μM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

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.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.