Human B7-1 / CD80 Protein, Mouse IgG2a Fc Tag, low endotoxin (MALS verified)

Catalog # B71-H52A4

Synonym

CD80,B7,B7-1,B7.1,BB1,CD28LG,CD28LG1,LAB7

Source

Human B7-1, Mouse IgG2a Fc Tag(B71-H52A4) is expressed from human 293 cells (HEK293). It contains AA Val 35 - Asn 242 (Accession # P33681-1).
Predicted N-terminus: Val 35

Molecular Characterization

B7-1(Val 35 - Asn 242) P33681-1	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 50.9 kDa. The protein migrates as 65-85 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.1 EU per μg by the LAL method / rFC method.

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

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

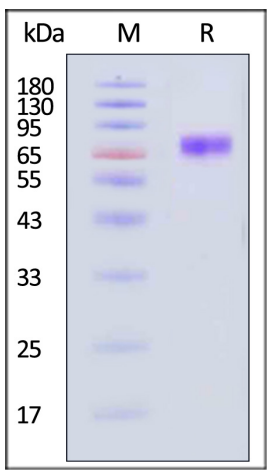
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

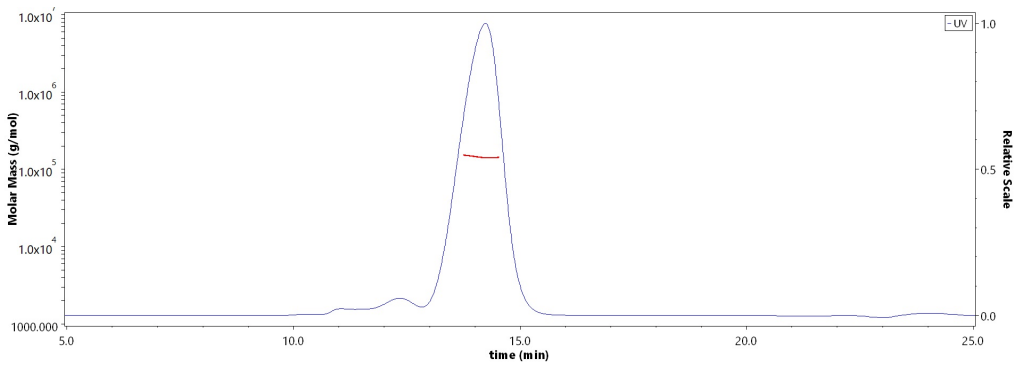
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



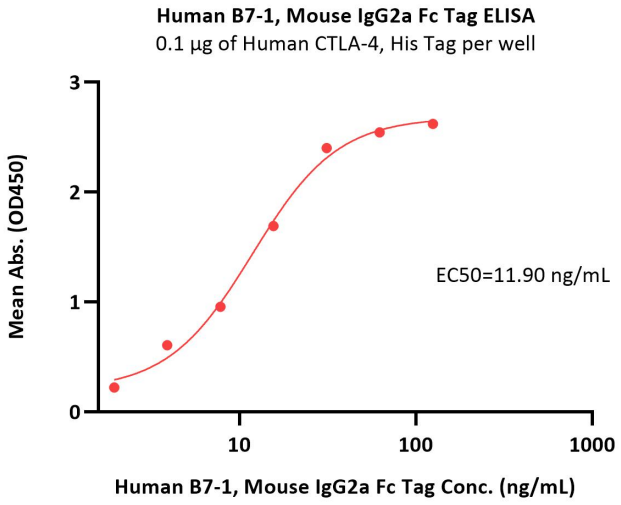
Human B7-1, Mouse IgG2a Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

SEC-MALS

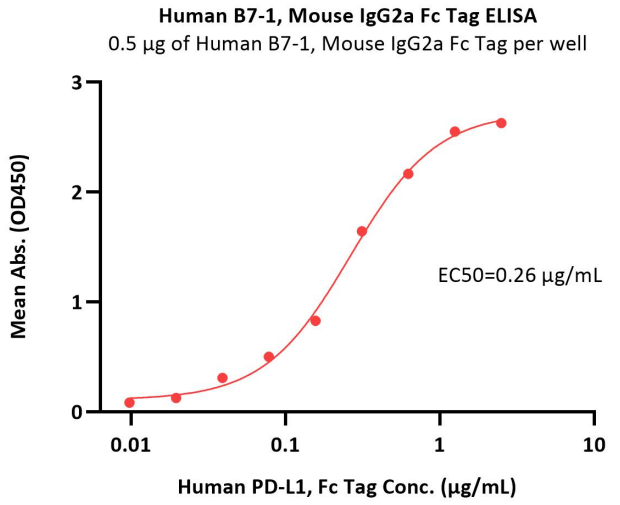


The purity of Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) is more than 90% and the molecular weight of this protein is around 135-155 kDa verified by SEC-MALS.
Report

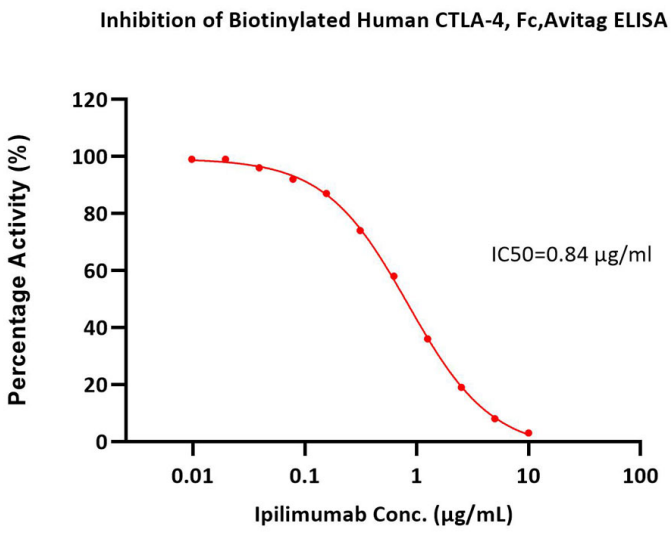
Bioactivity-ELISA



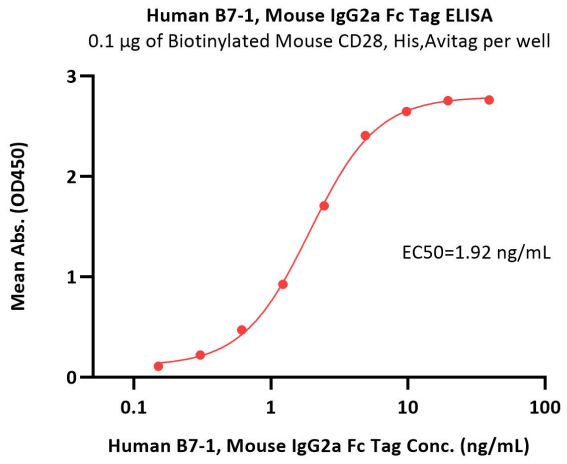
Immobilized Human CTLA-4, His Tag (Cat. No. CT4-H5229) at 1 μg/mL (100 μL/well) can bind Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) with a linear range of 2-31 ng/mL (QC tested).



Immobilized Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) at 5 μg/mL (100 μL/well) can bind Human PD-L1, Fc Tag (Cat. No. PD1-H5258) with a linear range of 0.01-0.313 μg/mL (Routinely tested).

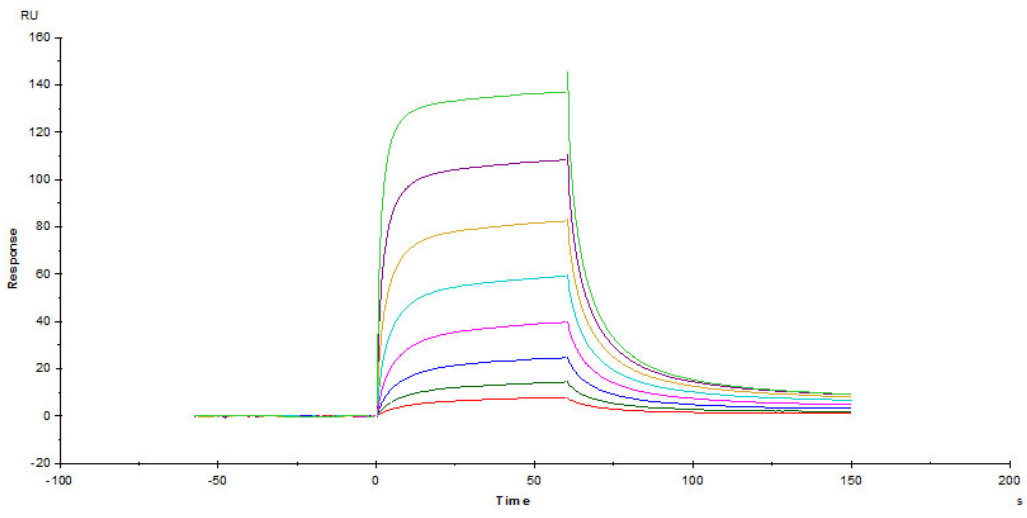


Serial dilutions of Ipilimumab were added into Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4): Biotinylated Human CTLA-4, Fc,Avitag (Cat. No. CT4-H82F3) binding reactions. The half maximal inhibitory concentration (IC50) is 0.8402 μg/mL (Routinely tested).



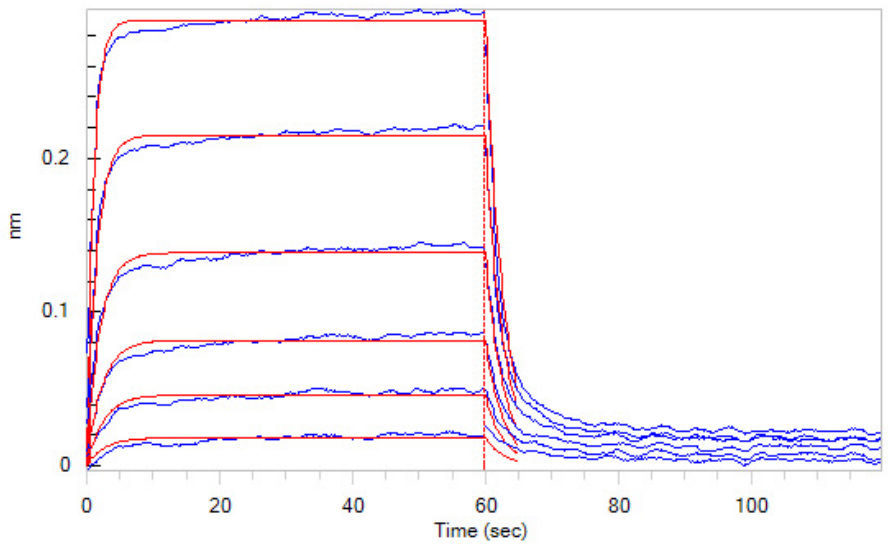
Immobilized Biotinylated Mouse CD28, His,Avitag (Cat. No. CD8-M82E3) at 1 μg/mL (100 μL/well) on Streptavidin (Cat. No. STN-N5116) precoated (0.5 μg/well) plate, can bind Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) with a linear range of 0.2-5 ng/mL (Routinely tested).

Bioactivity-SPR

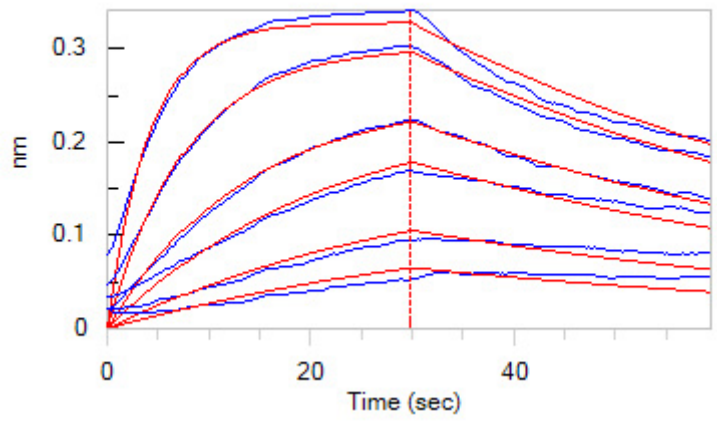


Immobilized Human / Cynomolgus / Rhesus macaque CD28, Fc Tag (Cat. No. CD8-H525a) on CM5 Chip can bind Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) with an affinity constant of 2.72 μM as determined in a SPR assay (Biacore T200) (Routinely tested).

Bioactivity-BLI

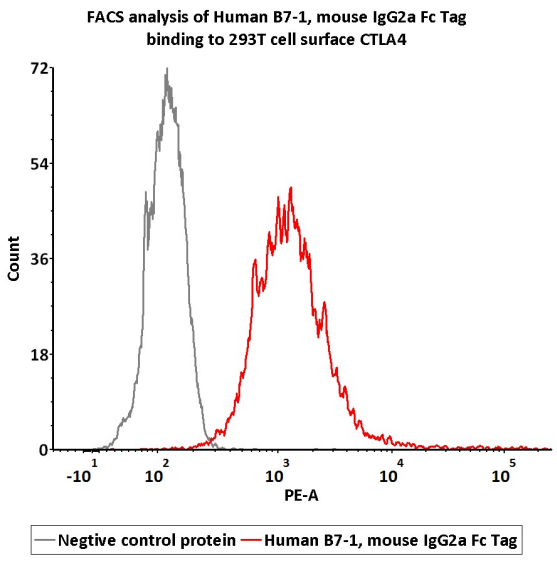


Loaded Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) on Protein A Biosensor, can bind Human / Cynomolgus / Rhesus macaque CD28, His Tag with an affinity constant of 4.6 μM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

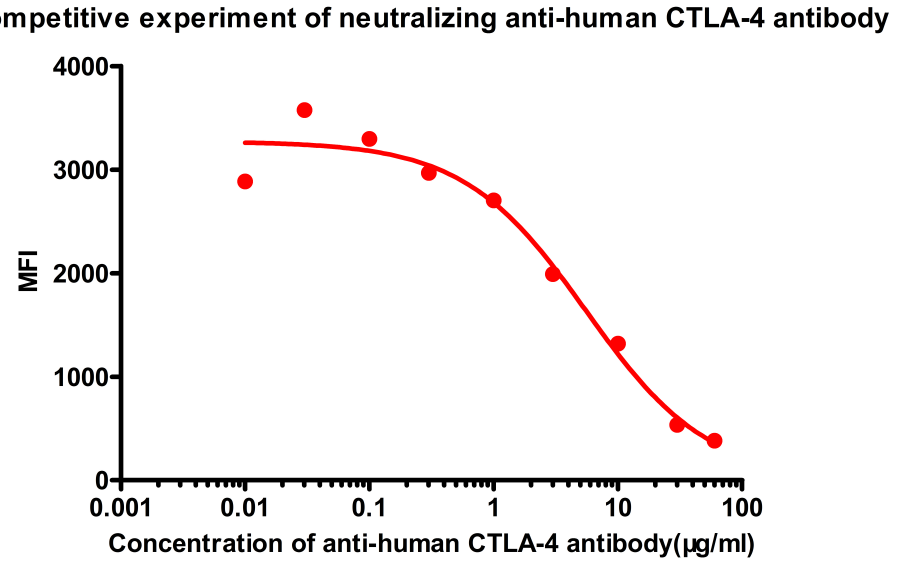


Loaded Biotinylated Human / Cynomolgus / Rhesus macaque CD28, Fc,Avitag (Cat. No. CD8-H82F2) on SA Biosensor, can bind Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) with an affinity constant of 38.3 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity-FACS



Flow Cytometry assay shows that Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) can bind to 293 cell overexpressing human CTLA-4. The concentration of Human B7-1 is 1 μg/mL (Routinely tested).



FACS analysis shows that the binding of Human B7-1, Mouse IgG2a Fc Tag (Cat. No. B71-H52A4) to 293 overexpressing CTLA-4 was inhibited by increasing concentration of neutralizing Anti-human CTLA-4 antibody. The concentration of Human B7-1 is 1 μg /mL. The IC50 is 5.5 μg/mL (Routinely tested).

Background

B7-1 and B7-2, together with their receptors CD28 and CTLA4, constitute one of the dominant co-stimulatory pathways that regulate T and Bcell responses. Although both CTLA4 and CD28 can bind to the same ligands, CTLA4 binds to B71 and B72 with a 20 100 fold higher affinity than CD28 and is involved in the downregulation of the immune response.
B-lymphocyte activation antigen B7-1 (referred to as B7) also known as cluster of Differentiation 80 (CD80), is a member of cell surface immunoglobulin superfamily and is expressed on activated B cells, activated T cells, macrophages and dendritic cells. It is the ligand for two different proteins on the T cell surface: CD28 (for autoregulation and intercellular association) and CTLA-4 (for attenuation of regulation and cellular disassociation). CD80 works in tandem with CD86 to

prime T cells. CD80 plays a role in induction of innate immune responses by activating NF-κB-signaling pathway in macrophages. CD80 is thus regarded as promising therapeutic targets for autoimmune diseases and various carcinomas.