

Synonym

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

Source

Human B7-1, Fc Tag(B71-H5259) is expressed from human 293 cells (HEK293). It contains AA Val 35 - Asn 242 (Accession # [NP_005182.1](#)).

Predicted N-terminus: Val 35

Molecular Characterization

B7-1(Val 35 - Asn 242) NP_005182.1	Fc(Pro 100 - Lys 330) P01857
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This protein carries a human IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 50.0 kDa. The protein migrates as 65-90 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per µg by the LAL method / rFC method.

Purity

>95% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

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

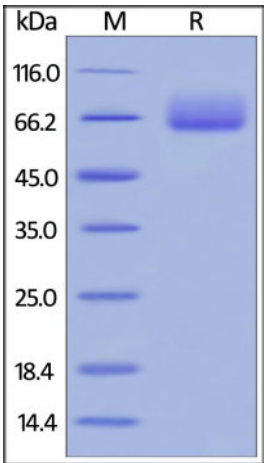
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

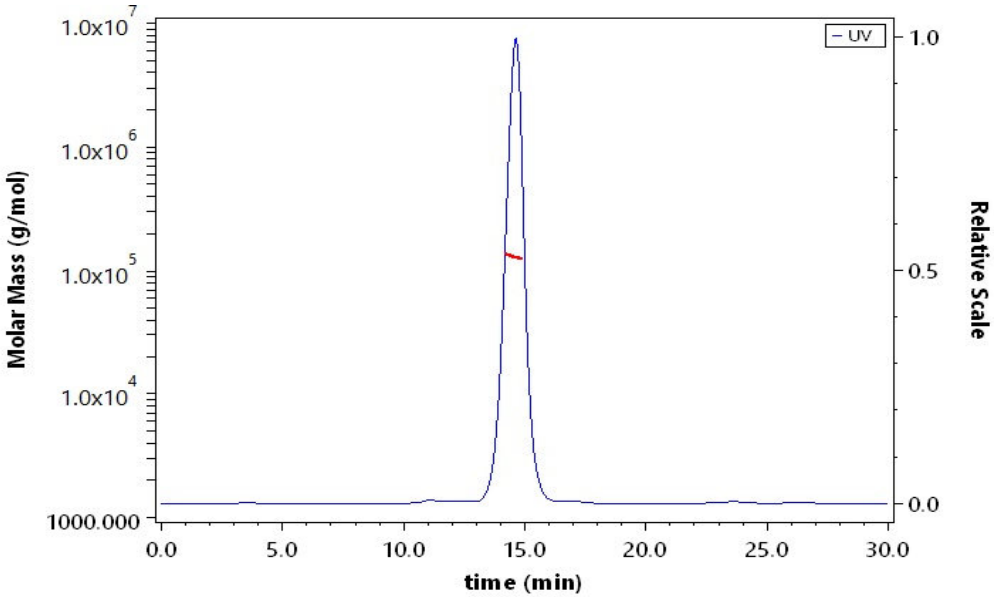
- 20°C to -70°C for 12 months in lyophilized state;
- 70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Human B7-1, 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%.

SEC-MALS



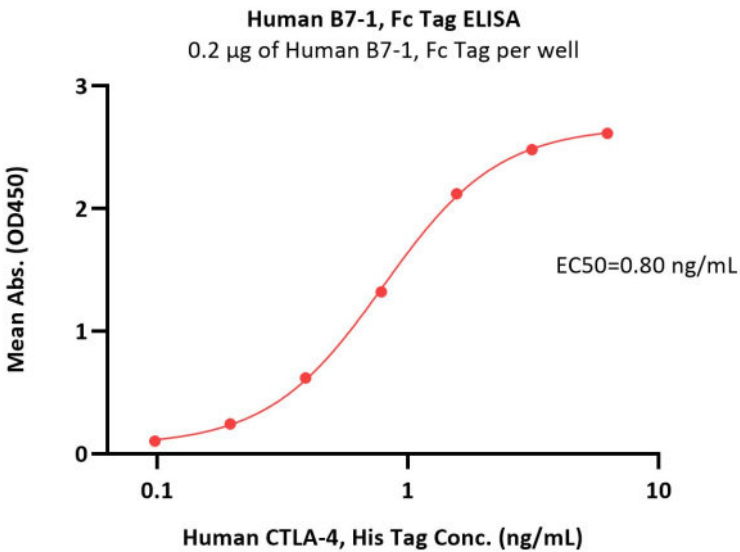
The purity of Human B7-1, Fc Tag (Cat. No. B71-H5259) is more than 95% and the molecular weight of this protein is around 125-135 kDa verified by SEC-MALS.

[Report](#)

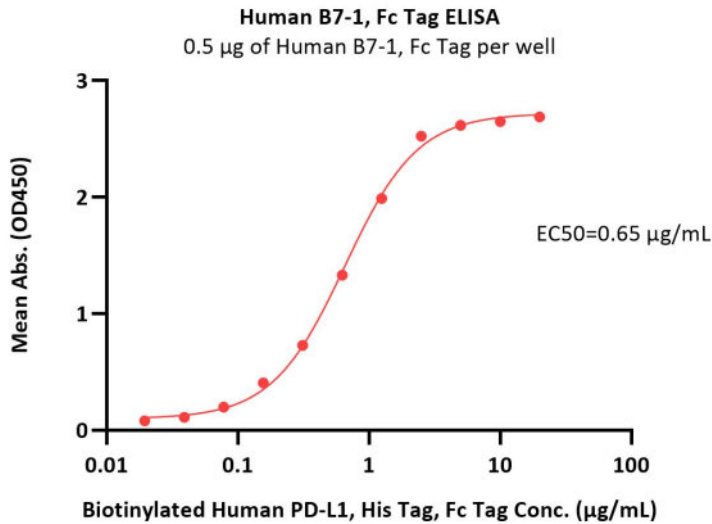
Bioactivity-ELISA

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and more!

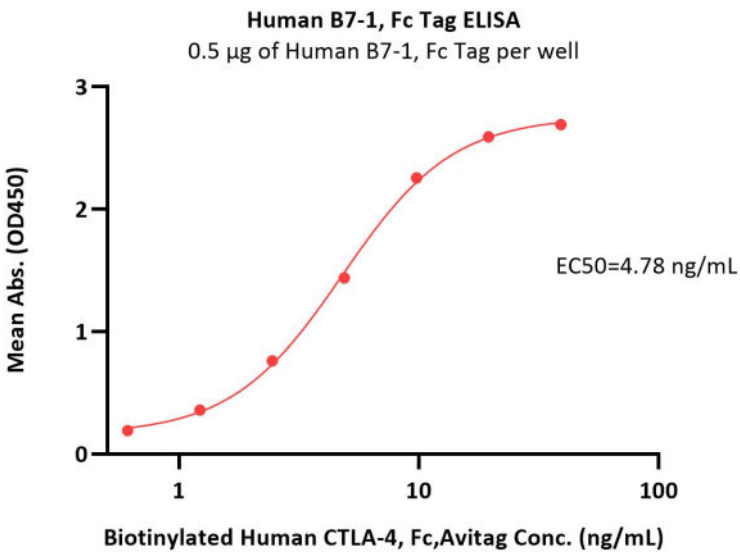




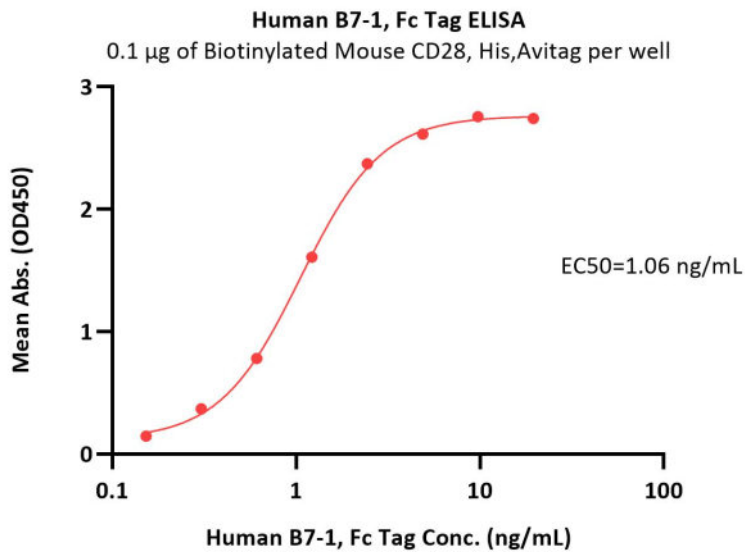
Immobilized Human B7-1, Fc Tag (Cat. No. B71-H5259) at 2 µg/mL (100 µL/well) can bind Human CTLA-4, His Tag (Cat. No. CT4-H52H9) with a linear range of 0.1-2 ng/mL (QC tested).



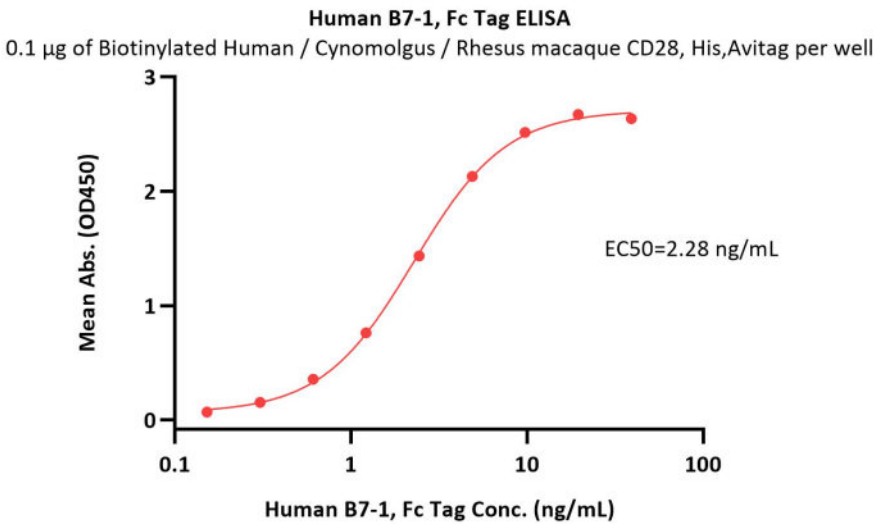
Immobilized Human B7-1, Fc Tag (Cat. No. B71-H5259) at 5 µg/mL (100 µL/well) can bind Biotinylated Human PD-L1, Fc,Avitag,His Tag (Cat. No. PD1-H82F3) with a linear range of 0.02-1.25 µg/mL (Routinely tested).



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).



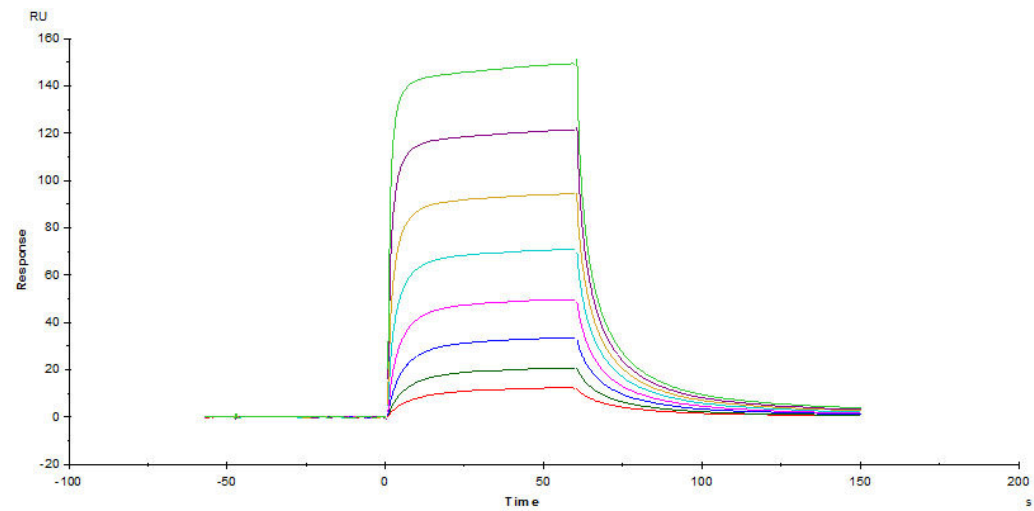
Immobilized Biotinylated Mouse CD28, His,Avitag (Cat. No. CD8-M82E3) at 1 µg/mL (100 µL/well) on Streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate, can bind Human B7-1, Fc Tag (Cat. No. B71-H5259) with a linear range of 0.2-2 ng/mL (Routinely tested).



Immobilized Biotinylated Human / Cynomolgus / Rhesus macaque CD28, His,Avitag (Cat. No. CD8-H82E5) at 1 µg/mL (100 µL/well) on Streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate, can bind Human B7-1, Fc Tag (Cat. No. B71-H5259) with a linear range of 0.2-5 ng/mL (Routinely tested).

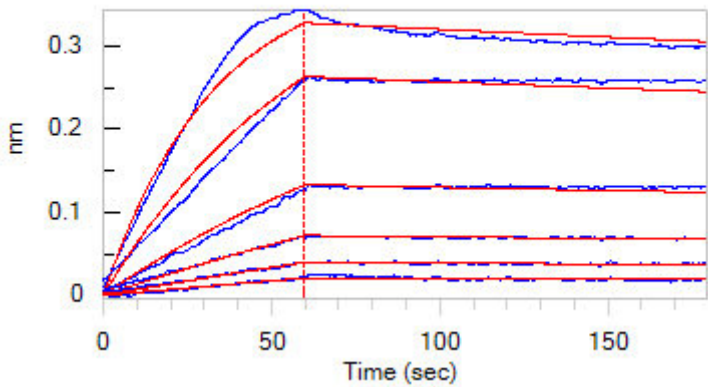


Bioactivity-SPR

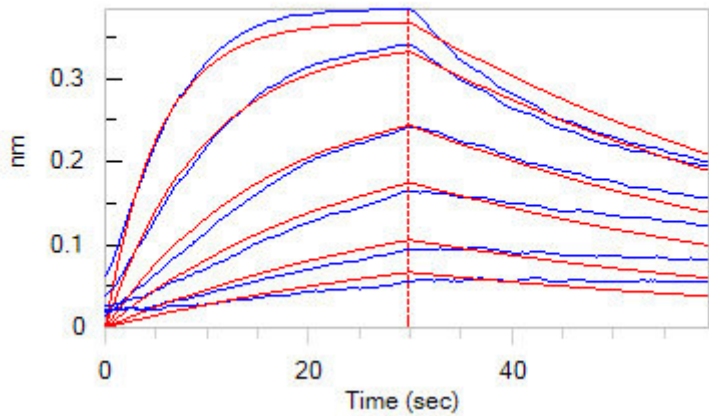


Immobilized Human / Cynomolgus / Rhesus macaque CD28, Fc Tag (Cat. No. CD8-H525a) on CM5 Chip can bind Human B7-1, Fc Tag (Cat. No. B71-H5259) with an affinity constant of 2.01 μ M as determined in a SPR assay (Biacore T200) (Routinely tested).

Bioactivity-BLI

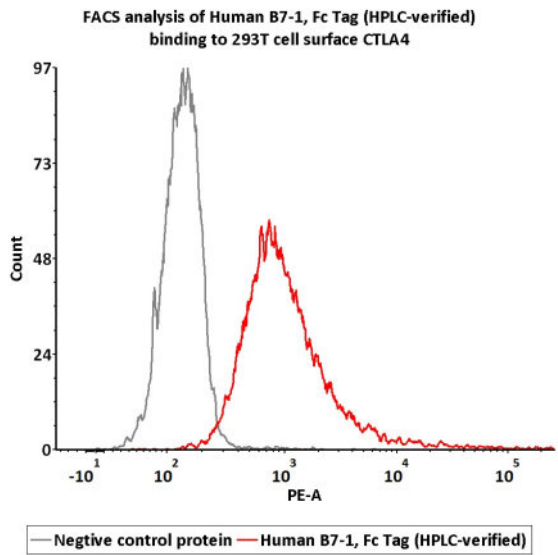


Loaded Human B7-1, Fc Tag (Cat. No. B71-H5259) on Protein A Biosensor, can bind Human / Cynomolgus / Rhesus macaque CD28, His Tag with an affinity constant of 5.1 μ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Human B7-1, Fc Tag (Cat. No. B71-H5259) on Protein A Biosensor, can bind Human CTLA-4, His Tag, active dimer (Cat. No. CT4-H52H9) with an affinity constant of 0.498 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity-FACS



FACS assay shows that Human B7-1, Fc Tag (Cat. No. B71-H5259) can bind to 293T cells overexpressing human CTLA4 protein. The concentration of



Human B7-1 is 1 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.

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