

**Synonym**

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

Source

Human B7-1, His Tag (B71-H5228) 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**

Poly-his

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 25.8 kDa. The protein migrates as 40-60 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to different glycosylation.

Endotoxin

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

Purity

>90% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 μ m filtered solution in PBS, pH7.4 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.

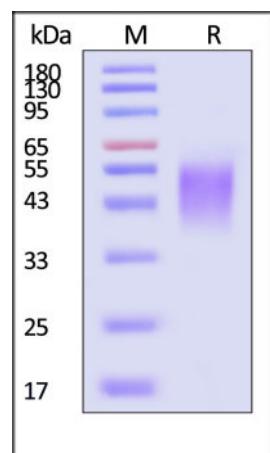
Storage

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

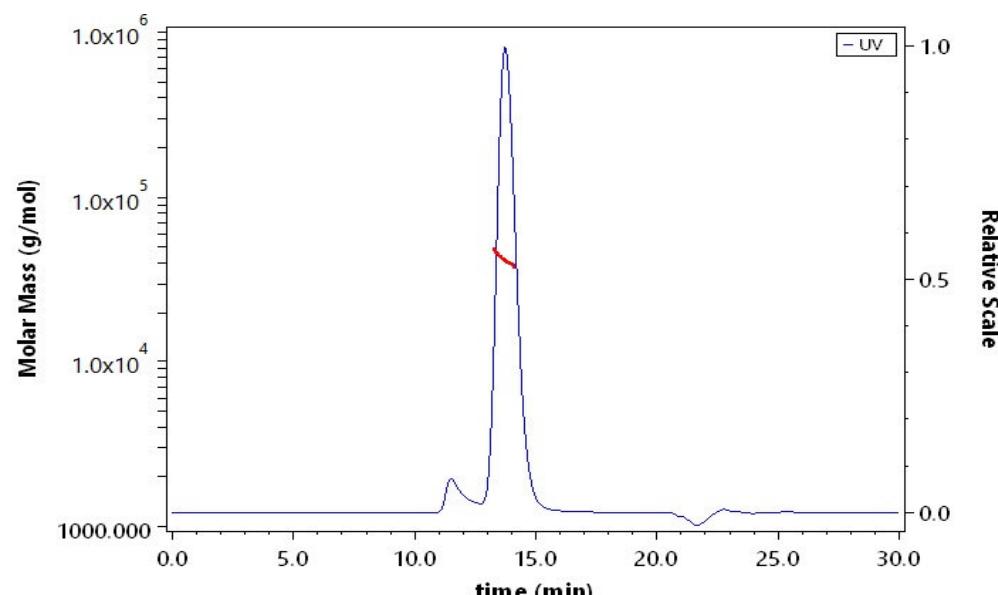
Please avoid repeated freeze-thaw cycles.

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, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

SEC-MALS

The purity of Human B7-1, His Tag (Cat. No. B71-H5228) is more than 95% and the molecular weight of this protein is around 38-55 kDa verified by SEC-MALS.

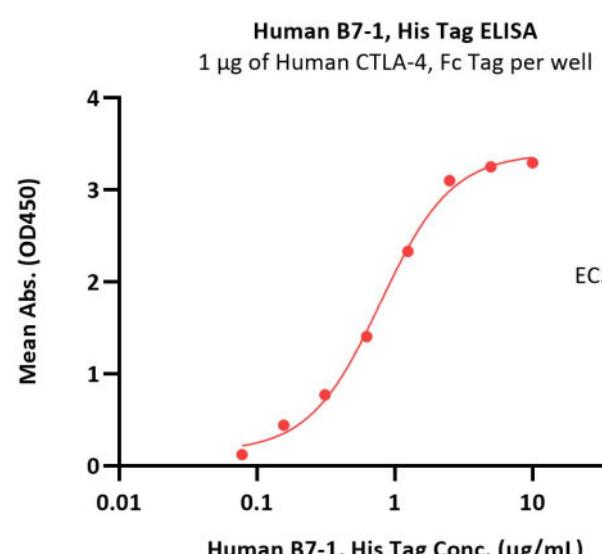
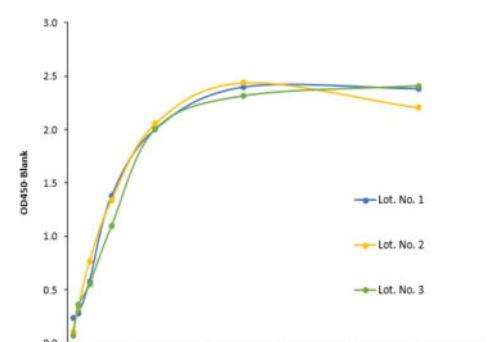
[Report](#)

Bioactivity-ELISA

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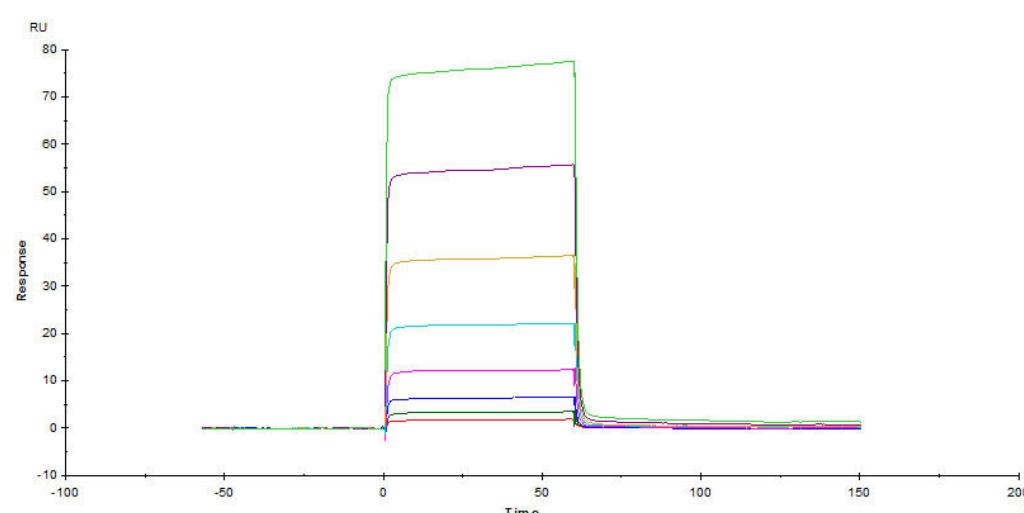


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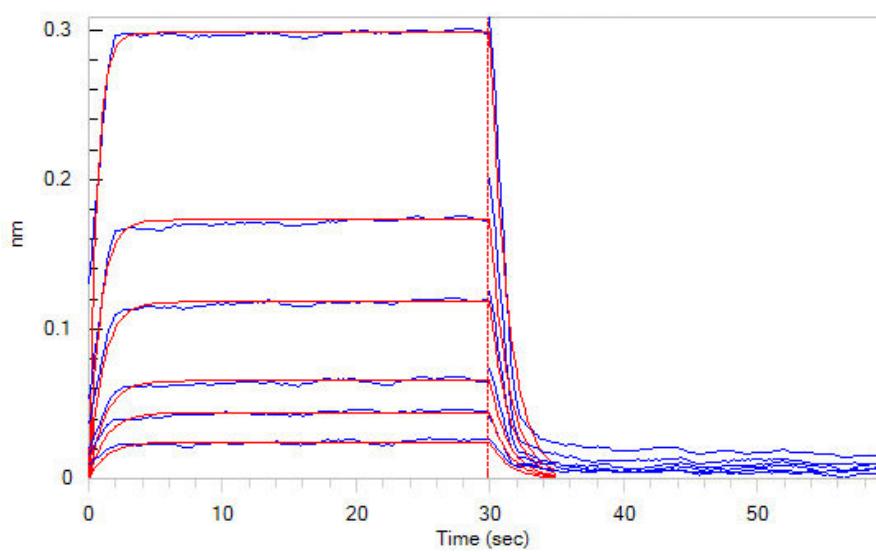
**Batch consistency**

Lot. No.	EC50(μ g/mL)
Lot. No. 1	0.5838
Lot. No. 2	0.5045
Lot. No. 3	0.6858

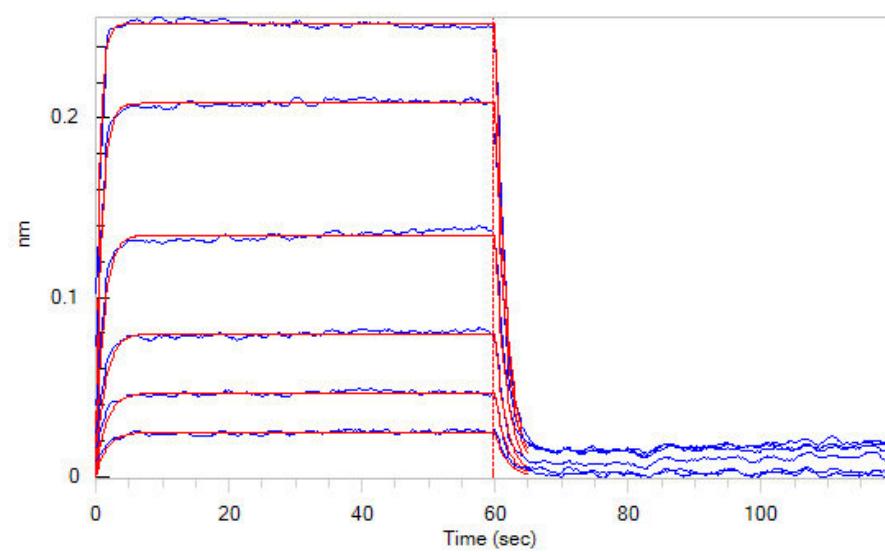
Immobilized Human CTLA-4, Fc Tag (Cat. No. CT4-H5255) at 10 μ g/mL (100 μ L/well) can bind Human B7-1, His Tag (Cat. No. B71-H5228) with a linear range of 0.078-1.25 μ g/mL (QC tested).

Bioactivity-SPR

Immobilized Human / Cynomolgus / Rhesus macaque CD28, Fc Tag (Cat. No. CD8-H525a) on CM5 Chip can bind Human B7-1, His Tag (Cat. No. B71-H5228) with an affinity constant of 5.29 μ M as determined in a SPR assay (Biacore T200) (Routinely tested).

Bioactivity-BLI

Loaded Human PD-L1, Fc Tag (Cat. No. PD1-H5258) on Protein A Biosensor, can bind Human B7-1, His Tag (Cat. No. B71-H5228) with an affinity constant



Loaded Human / Cynomolgus / Rhesus macaque CD28, Mouse IgG2a Fc Tag, low endotoxin (Cat. No. CD8-H52A5) on Protein A Biosensor, can bind

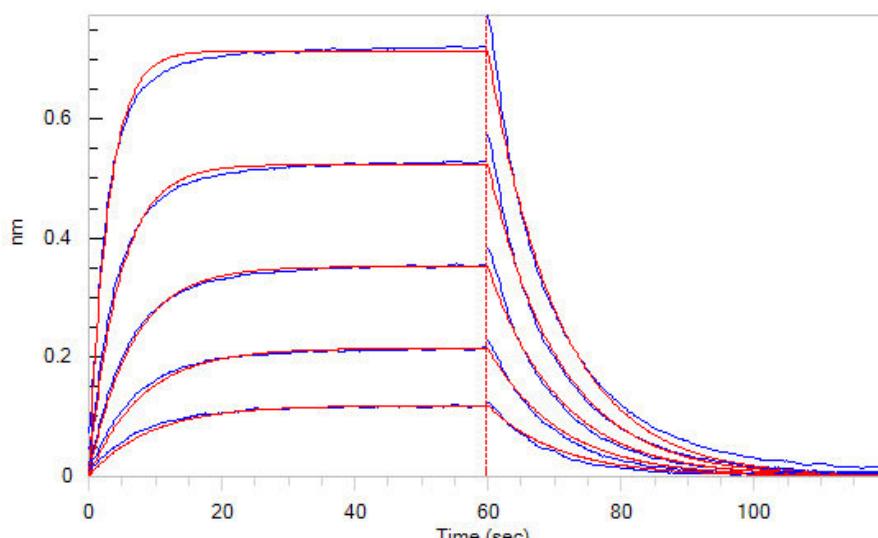
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of 18 μ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Human B7-1, His Tag (Cat. No. B71-H5228) with an affinity constant of 2.1 μ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Human CTLA-4, Fc Tag (Cat. No. CT4-H5255) on Protein A Biosensor, can bind Human B7-1, His Tag (Cat. No. B71-H5228) with an affinity constant of 0.52 μ M as determined in BLI assay (ForteBio Octet Red96e) (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 B cell responses. Although both CTLA4 and CD28 can bind to the same ligands, CTLA4 binds to B7-1 and B7-2 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- κ B-signaling pathway in macrophages. CD80 is thus regarded as promising therapeutic targets for autoimmune diseases and various carcinomas.

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