



Synonym

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

Source

Biotinylated Human B7-1 Protein, Fc,Avitag, premium grade(B71-H82F3) is expressed from human 293 cells (HEK293). It contains AA Val 35 - Asn 242 (Accession # [P33681-1](#)).

Predicted N-terminus: Val 35

It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.

Molecular Characterization

B7-1(Val 35 - Asn 242)	Fc(Pro 100 - Lys 330)	Avi
P33681-1	P01857	

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 52.0 kDa. The protein migrates as 65-80 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.

Endotoxin

Less than 0.05 EU per µg by the LAL method / rFC method.

Sterility

Negative

Mycoplasma

Negative

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 100 mM Glycine, 25 mM Arginine, 150 mM 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

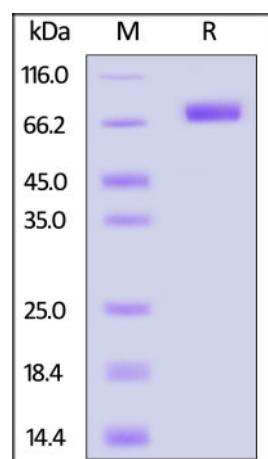
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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



SEC-MALS

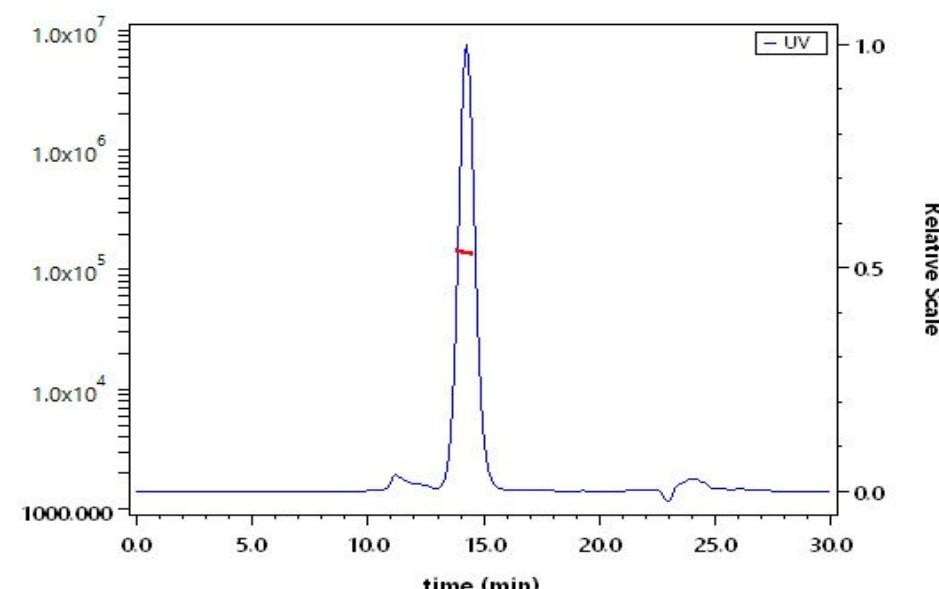
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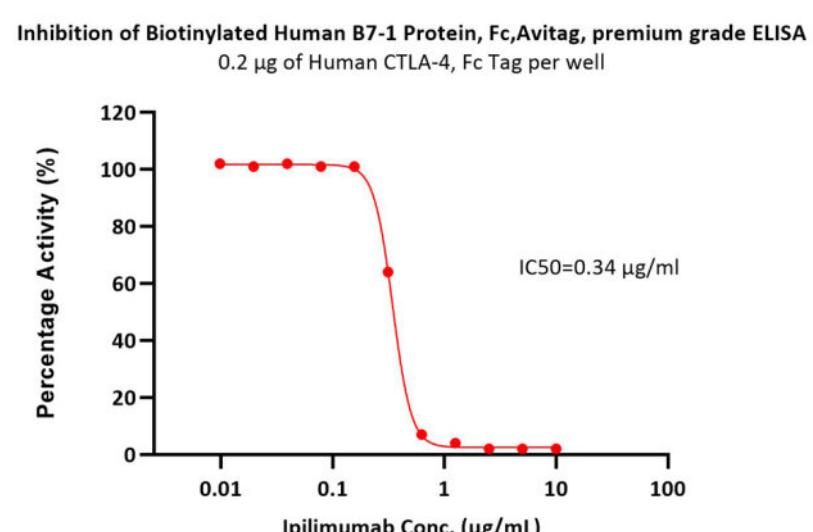
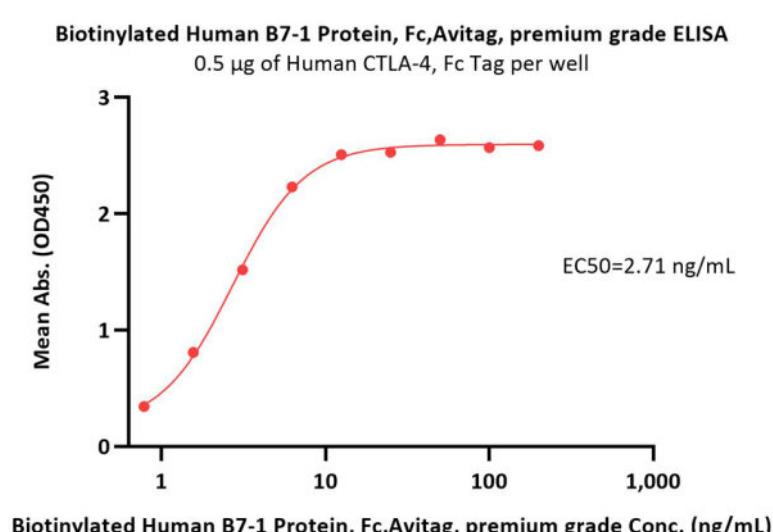
Biotinylated Human B7-1 Protein, Fc,Avitag, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.



The purity of Biotinylated Human B7-1 Protein, Fc,Avitag, premium grade (Cat. No. B71-H82F3) is more than 90% and the molecular weight of this protein is around 125-145 kDa verified by SEC-MALS.

[Report](#)

Bioactivity-ELISA



Immobilized Human CTLA-4, Fc Tag (Cat. No. CT4-H5255) at 5 µg/mL (100 µL/well) can bind Biotinylated Human B7-1 Protein, Fc,Avitag, premium grade (Cat. No. B71-H82F3) with a linear range of 0.8-6 ng/mL (QC tested).

Serial dilutions of Ipilimumab were added into Human CTLA-4, Fc Tag (Cat. No. CT4-H5255): Biotinylated Human B7-1 Protein, Fc,Avitag, premium grade (Cat. No. B71-H82F3) binding reactions. The half maximal inhibitory concentration (IC50) is 0.34215 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 B cell 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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