

Recombinant Human CD80 protein, His-tagged

Cat. No. CD80-2021H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human CD80 (Val35-Asn242) protein was fused to His-tag at C-terminus and expressed in human 293 cells (HEK293).
Species	Human
Source	HEK293
ProteinLength	Val35-Asn242
Description	<p>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.</p> <p>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.</p>

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Predicted N Terminal	Val35
Form	Lyophilized from 0.22 µm filtered solution in PBS, pH7.4, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 25.8 kDa. The protein migrates as 43-60 kDa under reducing (R) condition (SDS-PAGE) due to different glycosylation.
Endotoxin	Less than 1.0 EU per µg by the LAL method.
Purity	>90% as determined by SDS-PAGE.
Storage	<p>For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower.</p> <p>Please avoid repeated freeze-thaw cycles.</p> <p>This product is stable after storage at:</p> <ul style="list-style-type: none"> -20 to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

Gene Name	CD80
Official Symbol	CD80
Synonyms	CD80; CD80 molecule; CD28LG, CD28LG1, CD80 antigen (CD28 antigen ligand 1, B7 1 antigen), CD80 molecule; T-lymphocyte activation antigen CD80; B lymphocyte activation antigen B7; B7 1; B7.1; activation B7-1 antigen; costimulatory factor CD80; CTLA-4 counter-receptor B7.1; B-lymphocyte activation antigen B7; costimulatory

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molecule variant IgV-CD80; CD80 antigen (CD28 antigen ligand 1, B7-1 antigen); B7; BB1; B7-1; LAB7; CD28LG; CD28LG1

Gene ID 941

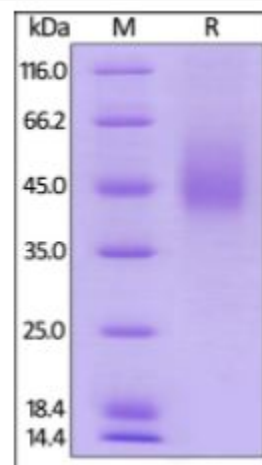
mRNA Refseq NM_005191

Protein Refseq NP_005182

MIM 112203

UniProt ID P33681

SDS-PAGE of CD80-2021H



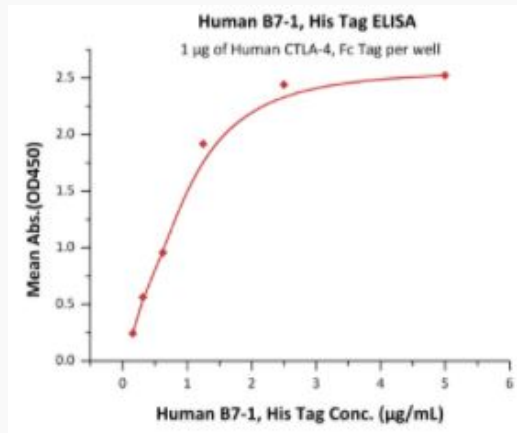
Human B7-1, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

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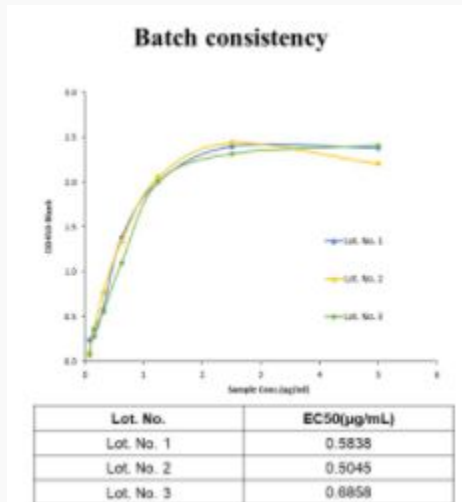
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**Bioactivity-ELISA of
CD80-2021H**



Immobilized Human CTLA-4, Fc Tag at 10 µg/mL (100 µL/well) can bind Human B7-1, His Tag with a linear range of 0.156-1.25 µg/mL (QC tested).

Bioactivity-ELISA

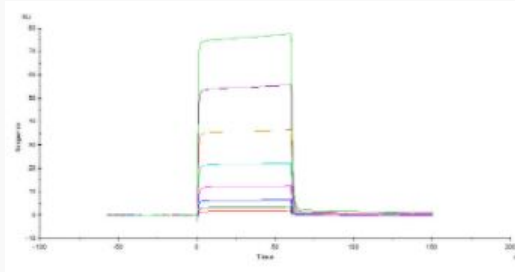


Batch consistency of Bioactivity-ELISA

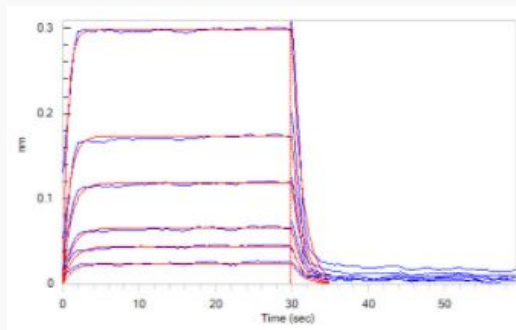
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**Bioactivity-SPR of
CD80-2021H**


Immobilized Human / Cynomolgus / Rhesus macaque CD28, Fc Tag (HPLC-verified) on CM5 Chip can bind Human B7-1, His Tag with an affinity constant of 5.29 μM as determined in a SPR assay (Biacore T200) (Routinely tested).

**Bioactivity-BLI of
CD80-2021H**

Loaded Human PD-L1, Fc Tag (HPLC-verified) on Protein A Biosensor, can bind Human B7-1, His Tag with an affinity constant of 18 μM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

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