

Recombinant Human CD80 protein, Fc-tagged (HPLC-verified)

Cat. No. CD80-55H Lot. No. (See product label)

SPECIFICATION

Product Overview

Recombinant Human CD80 protein (Val35-Asn242)(HPLC-verified), fused to human IgG1 Fc tag at C-terminus, was expressed in human 293 cells (HEK293).

Species

Human

Source

HEK293

ProteinLength

208

Description

B71 and B72, 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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Form	Lyophilized from 0.22 um filtered solution in 50 mM Tris, 100 mM Glycine, pH7.5, 10% trehalose.
Molecular Mass	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 ug by the LAL method.
Purity	>95% 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 centigrade 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 molecule variant IgV-CD80; CD80 antigen (CD28 antigen ligand 1, B7-1 antigen); B7;

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BB1; B7-1; LAB7; CD28LG; CD28LG1

Gene ID 941

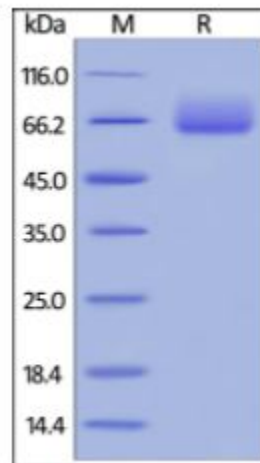
mRNA Refseq NM_005191

Protein Refseq NP_005182

MIM 112203

UniProt ID P33681

SDS-PAGE of CD80-55H

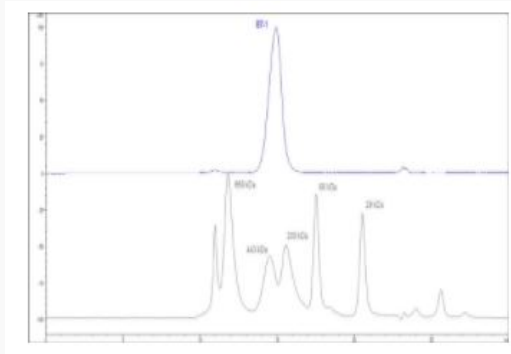


Human B7-1, Fc Tag (HPLC-verified) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

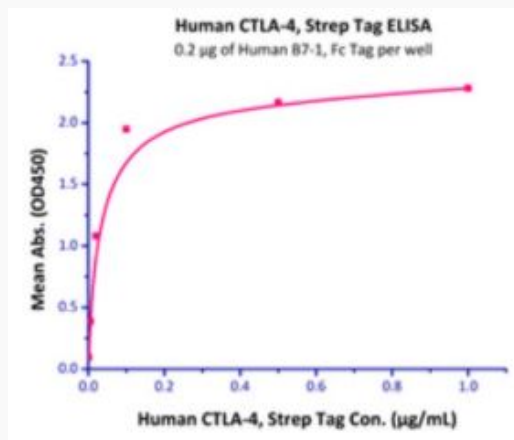
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SEC-HPLC of CD80-55H

The purity of Human B7-1, Fc Tag (HPLC-verified) was greater than 95% as determined by SEC-HPLC.

Bioactivity-ELISA of CD80-55H

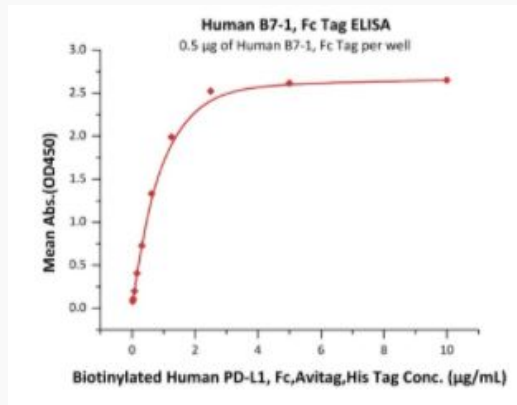
Immobilized Human B7-1, Fc Tag (HPLC-verified) at 2 µg/mL (100 µL/well) can bind Human CTLA-4, Strep Tag with a linear range of 1-20 ng/mL (QC tested).

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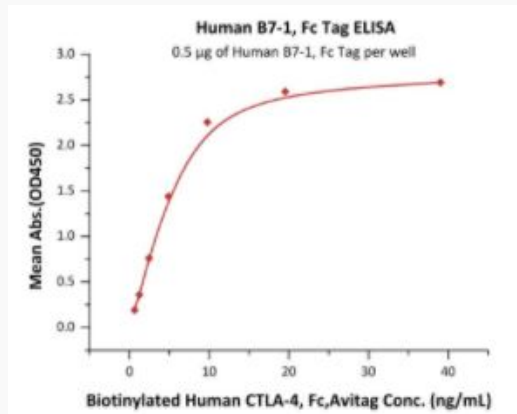
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**Bioactivity-ELISA of
CD80-55H**



Immobilized Human B7-1, Fc Tag (HPLC-verified) at 5 µg/mL (100 µL/well) can bind Biotinylated Human PD-L1, Fc, Avitag, His Tag with a linear range of 0.02-1.25 µg/mL (Routinely tested).

**Bioactivity-ELISA of
CD80-55H**



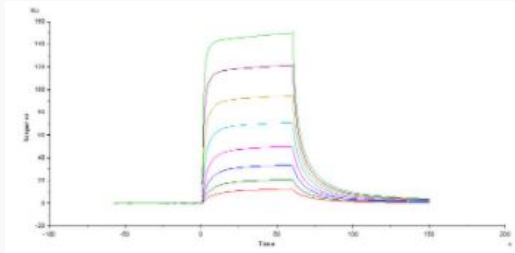
Immobilized Human B7-1, Fc Tag (HPLC-verified) at 5 µg/mL (100 µL/well) can bind Biotinylated Human CTLA-4, Fc, Avitag with a linear range of 0.6-10 ng/mL (Routinely tested).

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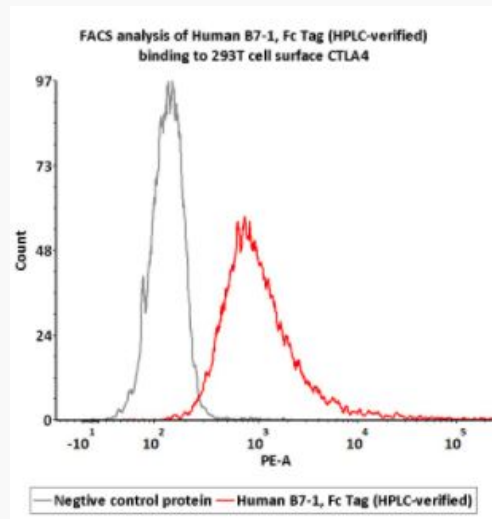
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**Bioactivity-SPR of
CD80-55H**




Immobilized Human/Cynomolgus/Rhesus macaque CD28, Fc Tag (HPLC-verified) on CM5 Chip can bind Human B7-1, Fc Tag (HPLC-verified) with an affinity constant of 2.01 μM as determined in a SPR assay (Routinely tested).


**Bioactivity-FACS of
CD80-55H**



FACS assay shows that Human B7-1, Fc Tag (HPLC-verified) can bind to 293T cells overexpressing human CTLA4 protein. The concentration of Human B7-1 is 1 $\mu\text{g}/\text{mL}$ (Routinely tested).

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