

B7-1 Protein, Human, Recombinant (His)

General Information

Synonyms:	BB1;CD28LG1;B7-1;CD28LG;B7;B7.1;LAB7;CD80 molecule
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Asn 242) of human B7-1 (NP_005182.1) precursor was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Val 35
Species:	Human
Expression Host:	HEK293 Cells
Accession:	A0N0P2
Molecular Weight:	25.4 kDa (predicted); 45-48 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Measured by its binding ability in a functional ELISA. Immobilized B7-1 Protein, Human, Recombinant (His Tag) at 2 µg/ml (100 µl/well) can bind CTLA-4 Protein, Human, Recombinant (His & hFc Tag). The EC50 of CTLA-4 (His & hFc Tag) is 35-80 ng/ml.2. Loaded Recombinant Human CTLA-4 Protein, hFc Tag on ProA Biosensor, can bind Recombinant Human B7-1 Protein, His Tag with an affinity constant of 5.331 nM as determined in BLI assay (Routinely tested).3. Loaded Recombinant Human B7-1 Protein, His Tag on His1K Biosensor, can bind Recombinant Human CD28 Protein, hFc Tag with an affinity constant of 0.46 µM as determined in BLI assay (QC tested).4. Loaded Recombinant Human CD86 Protein, His Tag on His1K Biosensor, can bind Recombinant Human CD28 Protein, hFc Tag with an affinity constant of 2.72 µM as determined in BLI assay (QC tested).
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The B-lymphocyte activation antigen B7-1 (referred to as B7), also known as CD80, is a member of cell surface immunoglobulin superfamily and is expressed on the surface of antigen-presenting cells including activated B cells, macrophages and dendritic cells. As costimulatory ligands, B7-1 which exists predominantly as dimer and the related protein B7-2, interact with the costimulatory receptors CD28 and cytotoxic T lymphocyte-associated antigen 4 (CTLA-4) expressed on T cells, and thus constitute one of the dominant pathways that regulate T cell activation and tolerance, cytokine production, and the generation of CTL. The B7/CD28/CTLA4 pathway has the ability to both positively and negatively regulate immune responses. CD80 is thus regarded as promising therapeutic targets for autoimmune diseases and various carcinomas. Cancer Immunotherapy Co-inhibitory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Detection: Antibodies Immune Checkpoint Detection: ELISA Antibodies Immune Checkpoint Detection: FCM Antibodies Immune Checkpoint Detection: IHC Antibodies Immune Checkpoint Detection: WB Antibodies Immune Checkpoint Proteins Immune Checkpoint Targets Immunotherapy Targeted Therapy

Reference

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Mir MA, et al. (2008) Signaling through CD80: an approach for treating lymphomas. Expert Opin Ther Targets. 12(8): 969-79.

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Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481