Human CD80 / B7-1 Protein (His Tag)

Catalog Number: 10698-H08H

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

B7; B7-1; B7.1; BB1; CD28LG; CD28LG1; LAB7

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.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: ≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.

Bio Activity:

1.Measured by its binding ability in a functional ELISA. Immobilized B7-1 Protein, Human, Recombinant (His Tag) (Cat: 10698-H08H) at 2 μg/ml (100 μl/well) can bind CTLA-4 Protein, Human, Recombinant (His & hFc Tag) (Cat: 11159-H03H). The EC50 of of CTLA-4 (His & hFc Tag) (Cat: 11159-H03H) is 35-80 ng/ml.
2.Loaded Recombinant Human CTLA-4 Protein, hFc Tag (Cat.No.11159-H02H6) on ProA Biosensor, can bind Recombinant Human B7-1 Protein, His Tag (Cat.No.10698-H08H) with an affinity constant of 5.331nM as determined in BLI assay (Sartorius Octet RH16) (Routinely tested).
3.Loaded Recombinant Human B7-1 Protein, His Tag(Cat. No. 10698-H08H) on His1K Biosensor, can bind Recombinant Human CD28 Protein, hFc Tag (Cat. No. 11524-H02H) with an affinity constant of 0.46 μM as determined in BLI assay (Sartorius Octet RED384) (QC tested).
4.Loaded Recombinant Human CD86 Protein, His Tag(Cat. No. 10699-H08H) on His1K Biosensor, can bind Recombinant Human CD28 Protein, hFc Tag (Cat. No. 11524-H02H) with an affinity constant of 2.72 μM as determined in BLI assay (Sartorius Octet RED384) (QC tested).

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Predicted N terminal: Val 35

Molecular Mass:

The recombinant human B7-1 consists of 219 amino acids and has a predicted molecular mass of 25.4 kDa. By reduced SDS-PAGE, the apparent molecular mass of rh B7-1 is approximately 45-48 kDa due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

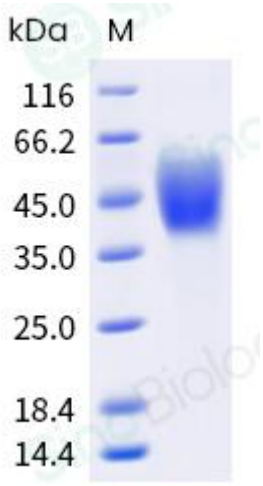
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20℃ to -80℃.

Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

SDS-PAGE:



Protein Description

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.

References

1.Greenfield EA, et al. (1998) CD28/B7 costimulation: a review. Crit Rev Immunol. 18(5): 389-418.
2.Zang X, et al. (2007) The B7 family and cancer therapy: costimulation and coinhibition. Clin Cancer Res. 13(18 Pt 1): 5271-9.
3.Mir MA, et al. (2008) Signaling through CD80: an approach for treating lymphomas. Expert Opin Ther Targets. 12(8): 969-79.