Human PD-L1 / B7-H1 / CD274 Protein (ECD, mFc Tag)

Catalog Number: 10084-H05H

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

B7-H; B7-H1; B7H1; PD-L1; PDCD1L1; PDCD1LG1; PDL1

Protein Construction:

A DNA sequence encoding the human CD274 (NP_054862.1) (Met1-Thr239) was expressed with the Fc region of mouse IgG1 at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: ≥ 95 % as determined by SDS-PAGE. ≥ 85 % as determined by SEC-HPLC.

Bio Activity:

1. Measured by its binding ability in a functional ELISA. Immobilized recombinant Human PD1-His (Cat:10377-H08H) at 10 μg/ml (100 μl/well) can bind human PD-L1 (Cat:10084-H05H) with a linear range of 1.28-20 μg/ml.
2. Labeled biotin to PD-L1 Protein, Human, Recombinant (ECD, Fc Tag) by a certain molar ratio;
Using the Octet RED System, the affinity constant (Kd) of PD-L1 Protein, Human, Recombinant (ECD, Fc Tag), Biotinylated (Cat. 10084-H05H-B) bound to Atezolizumab was 0.1 nM.
3. CHO cells were transduced with human PD1 and subjected to flow cytometric analysis using recombinant human PDL1 protein (mouse IgG2a Fc tag) (left, Cat. No. 10084-H05H, red) and a negative control protein (blue). The cells were then stained with an FITC-conjugated anti-mouse IgG2a Fc antibody. Non-transduced CHO cells were used as a control (right).
4.Immobilized Recombinant Human PD-L1/B7-H1 Protein (ECD, mFc Tag), HPLC-verified (Cat: 10084-H05H) at 2 μg/mL (100 μL/well) can bind Recombinant Human PD-1 Protein (ECD, hFc Tag), HPLC-verified (Cat: 10377-H02H) the EC50 is 67-201 ng/mL.
5.Serial dilutions of Nivolumab were added into Recombinant Human PD-L1 / B7-H1 / CD274 Protein (ECD, mFc Tag) (Catalog# 10084-H05H) , the Nivolumab derived Anti-PD1 Antibody, Human IgG4 can block the binding of 20 μg/mL of Recombinant Human PD-1 Protein (ECD, hFc & AVI Tag), Biotinylated, HPLC-verified (Catalog# 10377-H41H-B) to Recombinant Human PD-L1 / B7-H1 / CD274 Protein (ECD, mFc Tag) , the IC50 is 278.7 ng/mL (Routinely tested).

Endotoxin:

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

Predicted N terminal: Phe 19

Molecular Mass:

The recombinant human CD274 consists of 455 amino acids and predicts a molecular mass of 51.7 kDa. As a result of glycosylation, the human CD274 migrates as an approximately 66 kDa protein in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from 20 mM Tris, 150 mM NaCl, 10 % Glycerol, pH 8.5.

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℃.

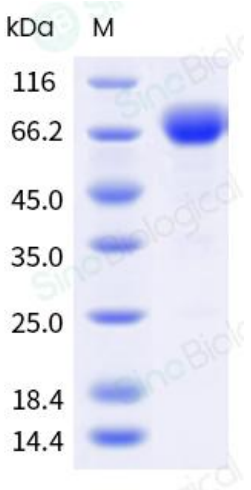
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Programmed death-1 ligand-1 (PD-L1, CD274, B7-H1) has been identified as the ligand for the immunoinhibitory receptor programmed death-1(PD1/PDCD1) and has been demonstrated to play a role in the regulation of immune responses and peripheral tolerance. PD-L1/B7-H1 is a member of the growing B7 family of immune molecules and this protein contains one V-like and one C-like Ig domain within the extracellular domain, and together with PD-L2, are two ligands for PD1 which belongs to the CD28/CTLA4 family expressed on activated lymphoid cells. By binding to PD1 on activated T-cells and B-cells, PD-L1 may inhibit ongoing T-cell responses by inducing apoptosis and arresting cell-cycle progression. Accordingly, it leads to growth of immunogenic tumor growth by increasing apoptosis of antigen specific T cells and may contribute to immune evasion by cancers. PD-L1 thus is regarded as promising therapeutic target for human autoimmune disease and malignant cancers.

References

1.Iwai Y, et al. (2002) Involvement of PD-L1 on tumor cells in the escape from host immune system and tumor immunotherapy by PD-L1 blockade. Proc Natl Acad Sci U S A. 99(19): 12293-7.
2.Ghebeh H, et al. (2006) The B7-H1 (PD-L1) T lymphocyte-inhibitory molecule is expressed in breast cancer patients with infiltrating ductal carcinoma: correlation with important high-risk prognostic factors. Neoplasia. 8(3): 190-8.
3.Salih HR, et al. (2006) The role of leukemia-derived B7-H1 (PD-L1) in tumor-T-cell interactions in humans. Exp Hematol. 34(7): 888-94.