Data Sheet (Cat.No.TMPY-04949)

TargetMol

PD-L1 Protein, Human, Recombinant (His), Biotinylated

General Information

Synonyms:	PDCD1LG1;B7H1;PD-L1;B7-H1;B7-H;CD274 molecule;PDL1;PDCD1L1
Protein Construction:	A DNA sequence encoding the N-terminal segment (Met1-Thr239) of the extracellular domain of human B7-H1 (NP_054862.1) was expressed with a C-terminal polyhistidine tag. The purified protein was biotinylated in vitro. Predicted N terminal: Phe 19
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9NZQ7-1
Molecular Weight:	26.8 kDa (predicted); 35-38 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized Human PD-1 His & hFc at 2 μg/ml (100 μl/well) can bind Human PD-L1 His, Biotinylated, the EC50 of Human PD-L1 His, Biotinylated is 50-300 ng/mL.
Purity:	> 95% as determined by SDS-PAGE.
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, pH7.4. 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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

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. Cancer ImmunotherapyCo-inhibitory Immune Checkpoint TargetsImmune CheckpointImmune Checkpoint Blockade: Blocking AntibodiImmune Checkpoint Blockade: PD-L1 / B7-H1 / CImmune Checkpoint Detection: AntibodiesImmune Checkpoint Detection: ELISA AntibodiesImmune Checkpoint Detection: FCM AntibodiesImmune Checkpoint Detection: ICC AntibodiesImmune Checkpoint Detection: IHC AntibodiesImmune Checkpoint Detection: WB AntibodiesImmune Checkpoint ProteinsImmune Checkpoint TargetsImmunotherapyPD-L1 / B7-H1 / CD274 Immune Checkpoint ProteTargeted Therapy

Reference

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.

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.

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.

Wilcox RA, et al. (2009) B7-H1 (PD-L1, CD274) suppresses host immunity in T-cell lymphoproliferative disorders. Blood. 114(10): 2149-58.

Ruggiero A, et al. (2009) Crystal structure of PD-L1, a ribosome inactivating protein from Phytolacca dioica L. leaves with the property to induce DNA cleavage. Biopolymers. 91(12): 1135-42.