Recombinant Human CD274 Protein, Fc&Avi tagged

Cat. No. CD274-088H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human PD-L1 (Phe19-Thr239) with C-terminus Fc-Avi tag is expressed in HEK293 cells.
Species	Human
Source	HEK293
Conjugation/Label	19-239 aa
Description	Programmed death-ligand 1 (PD-L1), also known as CD274 or B7-H1, is a transmembrane protein that plays a pivotal role in immune regulation by modulating T cell activity. PD-L1 is expressed on a wide range of cells, including antigen-presenting cells, epithelial cells, and many tumor cells. Its primary function is to bind to its receptor, programmed cell death protein 1 (PD-1), located on activated T cells. This interaction delivers an inhibitory signal that reduces T cell proliferation, cytokine production, and cytotoxicity, thereby maintaining immune homeostasis and preventing autoimmunity. However, in pathological contexts such as cancer, PD-L1 expression allows tumor cells to evade immune attack, creating an immunosuppressive microenvironment. Structurally, PD-L1 is a type I transmembrane glycoprotein belonging to the B7 family of immune checkpoint molecules. The extracellular domain comprises two immunoglobulin-like regions—an IgV-like domain responsible for PD-1 binding and an IgC-like domain that stabilizes the molecule. The protein also contains a single transmembrane helix and a short cytoplasmic tail that lacks classical signaling motifs but may interact with intracellular partners influencing its stability and localization. The PD-L1–PD-1 complex adopts

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	a well-characterized interface where the IgV domains of both molecules interact in a way that blocks T cell receptor-mediated activation signaling. The main ligands of PD-L1 are PD-1 and CD80 (B7-1). While PD-1 engagement results in T cell inhibition, interaction with CD80 may yield bidirectional signaling effects depending on the cellular context. PD-L1 can be induced by inflammatory cytokines such as interferon-gamma (IFN-γ), linking innate immune responses to immune checkpoint modulation. PD-L1 plays a major role in numerous diseases. Overexpression of PD-L1 is a hallmark of many cancers, including lung, melanoma, renal, and breast cancers, where it contributes to immune escape. Therapeutically, blocking the PD-1/PD-L1 axis with immune checkpoint inhibitors has revolutionized cancer treatment. Drugs such as pembrolizumab, nivolumab, and atezolizumab disrupt this inhibitory pathway, restoring antitumor T cell function. Moreover, PD-L1 is being explored as both a predictive biomarker for immunotherapy response and a target for novel therapies, including bispecific antibodies and CAR-T cells aimed at enhancing immune-mediated tumor clearance.
Form	Liquid, 1×PBS buffer, pH7.4, 0.22 μm filtered
Molecular Mass	The protein has a predicted molecular weight of 54 kDa and migrates at approximately 70 kDa on SDS-PAGE under DTT-reducing conditions.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI
Storage	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4 centigrade for up to 2 weeks, or at -20 centigrade or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 μm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ –70 centigrade to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

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Concentration	25 µg size is bottled at 0.2 mg/mL concentration. 100 µg size is supplied at a lot-specific concentration.

GENE INFORMATION

Gene Name	CD274 CD274 molecule [Homo sapiens (human)]
Official Symbol	CD274
Synonyms	CD274; CD274 molecule; CD274 antigen, PDCD1LG1, programmed cell death 1 ligand 1; programmed cell death 1 ligand 1; B7 homolog 1; B7 H; B7 H1; B7H1; PD L1; PDL1; CD274 antigen; PDCD1 ligand 1; programmed death ligand 1; B7-H; PD-L1; PDCD1L1; PDCD1LG1; MGC142294; MGC142296;
Gene ID	29126
mRNA Refseq	NM_014143
Protein Refseq	NP_054862
MIM	605402
UniProt ID	Q9NZQ7

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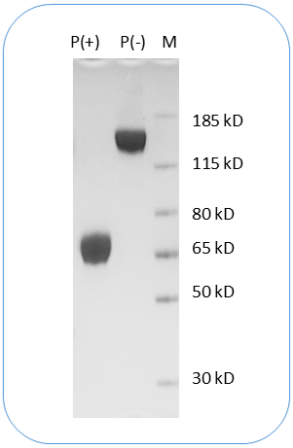
SDS-PAGE



Human PD-L1 Protein (C-Fc-Avi) on SDS-PAGE under reducing condition. The gel was stained for 1 hour with BlinkBlue. The purity of this protein appears to be greater than 95%.

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