Recombinant Human PDCD1LG2 Protein, Fc tagged, PE Labeled

Cat. No. PDCD1LG2-264H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human PD-L2 (Leu20-Pro219) with C-terminus Fc-tag is expressed in CHO cell and conjugated to PE.
Species	Human
Source	CHO
ProteinLength	PE
Conjugation/Label	20-219 aa
Description	CD273, also known as programmed death-ligand 2 (PD-L2) or B7-DC, is a transmembrane protein that functions as an immune checkpoint molecule regulating T cell activation and immune responses. CD273 is a member of the B7 family of costimulatory molecules and is primarily expressed on antigen-presenting cells such as dendritic cells, macrophages, and B cells, with expression upregulated during inflammation and immune activation. The protein binds to programmed cell death protein 1 (PD-1) on T cells, delivering inhibitory signals that suppress T cell proliferation, cytokine production, and effector functions. This interaction plays a crucial role in maintaining immune homeostasis, preventing autoimmunity, and resolving inflammatory responses. PD-L2 plays a pivotal role in negative regulation of the adaptive immune response, and unlike its related molecule PD-L1 (CD274), CD273 expression is more restricted and primarily induced under specific

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inflammatory conditions. Structurally, CD273 is a type I transmembrane glycoprotein of approximately 25-30 kDa belonging to the immunoglobulin superfamily. The extracellular region contains two immunoglobulin-like domains: an N-terminal IgV-like domain that mediates PD-1 binding and a membrane-proximal IgC-like domain that provides structural support. The protein also contains a single transmembrane domain and a short cytoplasmic tail. Structural studies have revealed the features that distinguish PD-L2 from PD-L1 in their interactions with PD-1. The IgV domain of CD273 interacts with PD-1 through a binding interface similar to that of PD-L1, though CD273 binds PD-1 with approximately 2-6 fold higher affinity than PD-L1. This higher binding affinity allows CD273 to effectively engage PD-1 and deliver coinhibitory signals that modulate T cell responses. The primary ligand for CD273 is PD-1 (CD279), an inhibitory receptor expressed on activated T cells, B cells, and myeloid cells. PD-1 has two naturally occurring ligands: PD-L1 and PD-L2 (CD273), both identified over a decade ago. The CD273-PD-1 interaction delivers negative regulatory signals that attenuate immune responses. Additionally, CD273 has been reported to bind to repulsive guidance molecule b (RGMb), though the functional significance of this interaction remains under investigation. The binding of CD273 to PD-1 results in recruitment of phosphatases that inhibit T cell receptor signaling pathways, reducing T cell activation and promoting immune tolerance. In disease contexts, CD273 plays a significant role in cancer immune evasion and is associated with patient prognosis. As an immune checkpoint molecule, PD-L2 was reported to be associated with patient outcomes and plays a pivotal role in cancer cell immune escape. Many tumors upregulate CD273 expression to suppress antitumor T cell responses, contributing to immune evasion. Elevated CD273 expression has been observed in various cancers, including Hodgkin lymphoma, mediastinal B cell lymphoma, and certain solid tumors, where it correlates with immune suppression in the tumor microenvironment. Therapeutically, the evolving landscape of PD-L2 is bringing new light to checkpoint immunotherapy. While most immune checkpoint inhibitors have focused on the PD-1/PD-L1 axis, the PD-1/PD-L2 (CD273) pathway is also being investigated as a therapeutic target. Some anti-PD-1 antibodies such as

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	nivolumab and pembrolizumab block both PD-L1 and PD-L2 binding to PD-1, contributing to their therapeutic efficacy. Additionally, CD273 is being explored as a biomarker for predicting response to immunotherapy, and selective CD273-targeting strategies are under development to modulate immune responses in cancer and autoimmune diseases while potentially minimizing toxicity compared to broader PD-1/PD-L1 blockade.
Form	Liquid, 1×PBS buffer, pH7.4, 0.09% NaN3 with a carrier protein
Molecular Mass	The protein has a predicted molecular weight of 48.8 kDa. Under DTT-reducing conditions, it migrates at approximately 65 kDa on SDS-PAGE prior to conjugation.
Applications	Flow Cytometry
Storage	Briefly centrifuge the vial upon receipt. An unopened vial may be stored at 2–8 centigrade for up to six months.
Concentration	25 μg size is bottled at 0.1 mg/mL concentration. 100 μg size is bottled at lot specific concentration.

GENE INFORMATION

Gene Name	PDCD1LG2 programmed cell death 1 ligand 2 [Homo sapiens (human)]
Official Symbol	PDCD1LG2
Synonyms	PDCD1LG2; programmed cell death 1 ligand 2; B7 dendritic cell molecule; B7 DC; bA574F11.2; Btdc; CD273; PD L2; PDL2; B7-DC; PD-1 ligand 2; PD-1-ligand 2; PDCD1 ligand 2; butyrophilin B7-DC; programmed death ligand 2; B7DC; PD-L2; PDCD1L2; MGC142238; MGC142240;

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Gene ID	80380
mRNA Refseq	NM_025239
Protein Refseq	NP_079515
MIM	605723
UniProt ID	Q9BQ51

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