

## Recombinant Human PDCD1LG2 Protein, Fc tagged, PE Labeled

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

### SPECIFICATION

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Product Overview</b>  | Recombinant Human PD-L2 (Leu20-Pro219) with C-terminus Fc-tag is expressed in CHO cell and conjugated to PE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Species</b>           | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>            | CHO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>ProteinLength</b>     | PE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Conjugation/Label</b> | 20-219 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>       | <p>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</p> |

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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

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.

|                       |                                                                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>           | Liquid, 1×PBS buffer, pH7.4, 0.09% NaN <sub>3</sub> with a carrier protein                                                                                     |
| <b>Molecular Mass</b> | 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. |
| <b>Applications</b>   | Flow Cytometry                                                                                                                                                 |
| <b>Storage</b>        | Briefly centrifuge the vial upon receipt. An unopened vial may be stored at 2–8 centigrade for up to six months.                                               |
| <b>Concentration</b>  | 25 µg size is bottled at 0.1 mg/mL concentration. 100 µg size is bottled at lot specific concentration.                                                        |

## GENE INFORMATION

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|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | PDCD1LG2 programmed cell death 1 ligand 2 [ Homo sapiens (human) ]                                                                                                                                                                                                   |
| <b>Official Symbol</b> | PDCD1LG2                                                                                                                                                                                                                                                             |
| <b>Synonyms</b>        | 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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