Recombinant Human PDCD1 Protein, Fc tagged, APC Labeled

Cat. No. PDCD1-252H **Lot. No.** (See product label)

SPECIFICATION

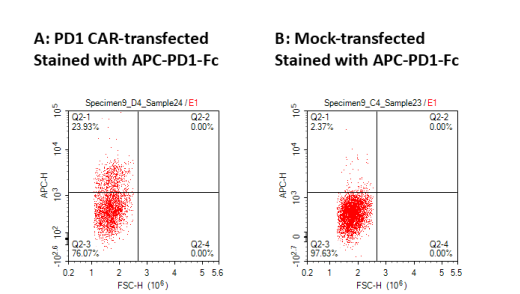
Product Overview	Human PD-1 protein (NP_005009.2) (Leu25-Gln167) with C-terminus Fc tag is expressed in HEK293 cells and conjugated to APC
Species	Human
Source	HEK293
ProteinLength	APC
Conjugation/Label	25-167 aa aa
Description	CD279, also known as Programmed Cell Death Protein 1 (PD-1), is a crucial immune checkpoint receptor that regulates T cell activation and prevents autoimmunity. This transmembrane protein plays a pivotal role in maintaining immune homeostasis by delivering inhibitory signals that dampen excessive immune responses. PD-1 is a type I transmembrane glycoprotein belonging to the immunoglobulin superfamily. It contains an extracellular immunoglobulin variable (IgV)-like domain, a transmembrane region, and an intracellular tail with two tyrosine-based signaling motifs: an immunoreceptor tyrosine-based inhibitory motif (ITIM) and an immunoreceptor tyrosine-based switch motif (ITSM). When engaged, these motifs recruit phosphatases that inhibit T-cell receptor signaling, effectively suppressing T-cell activation, proliferation, and cytokine production. PD-1 interacts with two primary ligands: PD-L1 (B7-H1/CD274) and PD-L2 (B7-DC/CD273). PD-L1 is widely expressed on various cell types, including tumor cells, antigen-presenting cells, and

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	non-hematopoietic tissues, while PD-L2 expression is more restricted to antigen-presenting cells. These ligand-receptor interactions serve as critical brakes on immune responses. In cancer, tumor cells exploit the PD-1/PD-L1 pathway to evade immune surveillance. By upregulating PD-L1 expression, tumors effectively "turn off" infiltrating T-cells, preventing effective anti-tumor immunity. This mechanism contributes to tumor progression and immune escape across multiple cancer types. The discovery of PD-1's role in cancer has revolutionized oncology through immune checkpoint inhibitors. Monoclonal antibodies targeting PD-1 (pembrolizumab, nivolumab) or PD-L1 (atezolizumab, durvalumab) block this inhibitory pathway, reinvigorating anti-tumor T-cell responses. These therapies have demonstrated remarkable success in treating melanoma, non-small cell lung cancer, renal cell carcinoma, and numerous other malignancies, fundamentally transforming cancer treatment paradigms and offering durable responses in previously untreatable cancers.
Form	Liquid, 1×PBS buffer, pH7.4, 0.09% NaN3 with a carrier protein
Molecular Mass	The protein has a predicted molecular weight of 19 kDa. Under DTT-reducing conditions, it migrates at approximately 25-30 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

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Gene Name	PDCD1 programmed cell death 1 [Homo sapiens (human)]
Official Symbol	PDCD1
Synonyms	PDCD1; programmed cell death 1; programmed cell death protein 1; CD279; PD1; protein PD-1; PD-1; SLEB2; hPD-1; hPD-l;
Gene ID	5133
mRNA Refseq	NM_005018
Protein Refseq	NP_005009
MIM	600244
UniProt ID	Q15116
FC	 CHO cells transfected with either PD1 CAR or Mock plasmid were stained with APC conjugated PD1 (C-Fc) protein at 1 μg/test

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