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PE Human PD1 (CD279) Protein (C-His)

Catalog Number:	803001, 803002
Size:	25 ug, 100 ug
Target Name:	PD1, PDCD1, CD279, SLEB2
Regulatory Status:	RUO

PRODUCT DETAILS

Application:	Flow Cytometry
Format:	Liquid, PE
Expression Host:	HEK293
Species:	Human
Sources:	Human PD-1 protein (NP_005009.2) (Leu25-Gln167) with C-terminus His tag is expressed in HEK293 cells and conjugated to PE
Accession Number:	Q15116
Molecular Weight:	The protein has a predicted molecular weight of 17 kDa. Under DTT-reducing conditions, it migrates at approximately 30-45 kDa on SDS-PAGE prior to conjugation.
Affinity Tag:	C-His
Formulation:	1xPBS buffer, pH7.4, 0.09% NaN3 with a carrier protein
Endotoxin level:	Not tested
Protein Concentration:	25μg size is bottled at 0.1mg/mL concentration. 100 μg size is bottled at lot specific concentration.
Storage and Handling:	Briefly centrifuge the vial upon receipt. An unopened vial may be stored at 2–8°C for up to six months.

BACKGROUND INFORMATION

Programmed Death-1 receptor (PD-1, also known as CD279) is a type I transmembrane protein and an immunoregulatory receptor of the CD28/CTLA-4 family. It is expressed on activated T cells, B cells, monocytes, dendritic cells, and some thymocytes. PD-1 binds to ligands PD-L1 and PD-L2, transmitting co-inhibitory signals that suppress T-cell activation, proliferation, cytokine production, and cytotoxic activity by dephosphorylating key signaling molecules. This mechanism promotes immune tolerance and prevents autoimmunity but is exploited by tumors to evade immune surveillance, as many tumors upregulate PD-L1. When tumor-expressed PD-L1 engages PD-1 on immune cells, it blocks T-cell activation and promotes immune exhaustion. Monoclonal antibodies targeting the PD-1/PD-L1 pathway have revolutionized cancer therapy by releasing this immune brake, enhancing anti-tumor immunity and leading to tumor regression in many cancers. Examples include nivolumab and pembrolizumab. This immunotherapy approach is now a major focus in oncology, offering a powerful tool to boost the immune system against cancer and reshape treatment paradigms.