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Biotin Human PD1 (CD279) Protein (C-Fc-Avi)

Catalog Number:	803103, 803104
Size:	25 ug, 100 ug
Target Name:	PD1, PDCD1, CD279, SLEB2
Regulatory Status:	RUO

PRODUCT DETAILS

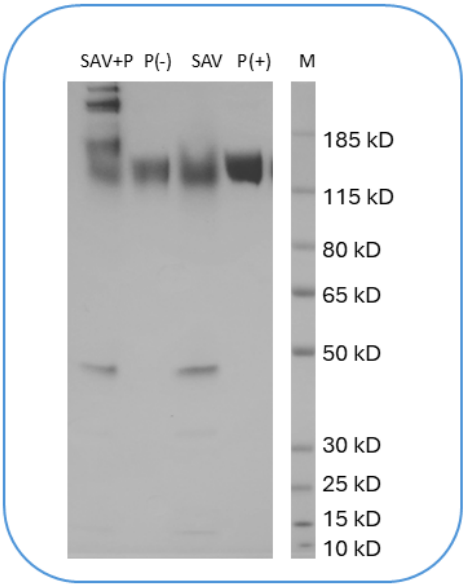
Application:	ELISA, BLI
Format:	Liquid, Biotinylated
Expression Host:	HEK293
Species:	Human
Sources:	Human PD-1 protein (NP_005009.2) (Leu25-Gln167) with C-terminus Fc-Avi tag is expressed in HEK293 cells. This protein was site-specifically labeled with Biotin by BirA ligase.
Accession Number:	Q15116
Molecular Weight:	The protein has a predicted molecular weight of 44 kDa. Under DTT-reducing conditions, it migrates at approximately 60 kDa on SDS-PAGE.
Affinity Tag:	C-Fc-Avi
Purity:	>95% based on SDS-PAGE under reducing condition
Formulation:	1xPBS buffer, pH7.4, 0.22 μm filtered
Endotoxin level:	Not tested
Protein Concentration:	25μg size is bottled at 0.2mg/mL concentration. 100 μg size is supplied at a lot-specific concentration.
Storage and Handling:	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4°C for up to 2 weeks, or at -20°C 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°C to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

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.

PRODUCT DATA



Human PD-1 protein (C-Fc-Avi) was biotinylated in vitro using BirA ligase. SDS-PAGE analysis under reducing (P+) and non-reducing (P−) conditions shows the protein has a purity greater than 95%. A gel shift assay using co-incubation with streptavidin indicates that the biotinylation efficiency of the PD-1 protein exceeds 85%.