

Technical Data Sheet

Human PD1 Protein (C-His-Avi)

Catalog Number: 802801, 802802
Size: 25 ug, 100 ug
Target Name: PD1, PDCD1, CD279, SLEB2
Regulatory Status: RUO

Product Details

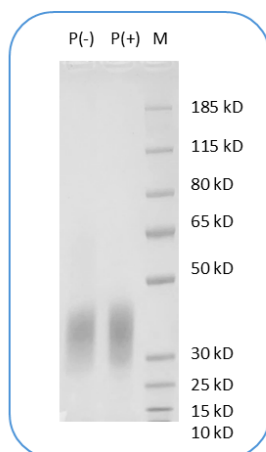
Application: ELISA, BLI
Format: Liquid, Purified
Expression Host: HEK293
Species: Human
Sources: Human PD-1 protein (NP_005009.2) (Leu25-Gln167) with C-terminus His-Avi tag is expressed in HEK293 cells
Accession Number: Q15116
Molecular Weight: The protein has a predicted molecular weight of 19.5 kDa. Under DTT-reducing conditions, it migrates at approximately 30-45 kDa on SDS-PAGE.
Affinity Tag: C-His-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

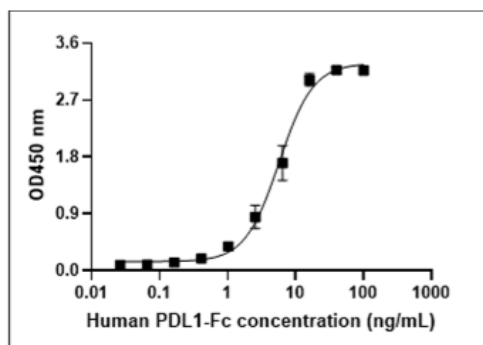
Programmed Death-1 receptor (PD-1, also known as CD279) is a type I transmembrane protein and an immunoregulatory receptor of the CD28/CTLA-4 family. It is expressed on activated T cells, B cells, monocytes, dendritic cells, and some thymocytes. PD-1 binds to ligands PD-L1 and PD-L2, transmitting co-inhibitory 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-His-Avi) on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The gel was stained for 1 hour with BlinkBlue (catalog 700102). The purity of this protein appears to be greater than 95%.



Streptavidin is immobilized at 2 µg/mL (100 µL/well), followed by incubation with biotinylated human PD-1 (C-His-Avi, Catalog #802803) at 0.5 µg/mL. A serial dilution of recombinant human PD-L1 (C-Fc) is then applied. Human PD-L1 (C-Fc) binds to the biotinylated human PD-1 protein in a dose-dependent manner.