

PD-1 Protein, Human (Biotinylated, HEK293, Fc-Avi)

Cat. No.:	HY-P78191
Synonyms:	PDCD1; PD1; CD279; SLEB2; PD-1
Species:	Human
Source:	HEK293
Accession:	Q15116 (L25-Q167)
Gene ID:	5133
Molecular Weight:	65-72 kDa

PROPERTIES

Biological Activity	Measured by its binding ability in a functional ELISA. When immobilized Human PD-L1 mFc tag at 2 µg/ml (100 µl/Well), can bind Biotinylated Human PD-1 hFc tag and the EC ₅₀ is 0.35 µg/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	PD-1 protein functions as an inhibitory receptor on antigen-activated T-cells, playing a crucial role in the induction and maintenance of immune tolerance to self. Upon binding to its ligands CD274/PDCD1L1 and CD273/PDCD1LG2, PD-1 delivers inhibitory signals and associates with CD3-TCR in the immunological synapse, directly impeding T-cell activation. This inhibitory action is further executed through the recruitment of PTPN11/SHP-2, leading to the dephosphorylation of key TCR proximal signaling molecules. Exploited by tumors to attenuate anti-tumor immunity, PD-1's interaction with CD274/PDCD1L1 inhibits cytotoxic T lymphocytes (CTLs) effector function. Blockage of the PD-1-mediated pathway has shown promise in reversing the exhausted T-cell phenotype and normalizing the anti-tumor response, providing a rationale for cancer immunotherapy.
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Caution: Product has not been fully validated for medical applications. For research use only.

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