PD-1 Protein, Human (147a.a, HEK293, His)

Cat. No.:	HY-P70766
Synonyms:	Programmed cell death protein 1; hPD-1; PDCD1; CD279
Species:	Human
Source:	HEK293
Accession:	Q15116 (P21-Q167)
Gene ID:	5133
Molecular Weight:	Approximately 38.0 kDa

PROPERTIES

AA Sequence	P G W F L D S P D R P W N P P T F S P A L L V V T E G D N A T F T C S F S N T S E S F V L N W Y R M S P S N Q T D K L A A F P E D R S Q P G Q D C R F R V T Q L P N G R D F H M S V V R A R R N D S G T Y L C G A I S L A P K A Q I K E S L R A E L R V T E R R A E V P T A H P S P S P R P A G Q F Q
Biological Activity	10 μg/mL (100 μL/well) of immobilized Human PD-1-His can bind Anti-PD1 with an ED50 value of 3.1 μg/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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.

Caution: Product has not been fully validated for medical applications. For research use only.

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