PD-1 Protein, Human (167a.a, HEK293, His)

Cat. No.:	HY-P73346
Synonyms:	CD279; hPD-1; PDCD1; Programmed cell death 1; SLEB2
Species:	Human
Source:	HEK293
Accession:	Q15116 (L25-Q167)
Gene ID:	5133
Molecular Weight:	Approximately 41.1 kDa

PROPERTIES

Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized human PD-1 at 10 μg/mL (100 μL/well) can bind human B7-H1/PD-L1 (Fc) chimera with a linear range of 0.02-0.4 μg/mL. Labeled biotin to PD-1 Protein, Human (His) by a certain molar ratio; Using the Octet RED System, the affinity constant (Kd) of human PD-1 Protein bound to Keytruda was 4.7 nM.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM MOPS, 500 mM NaCl, pH 7.0. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
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.
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.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA