

PD-1 Protein, Human (HEK293, Fc)

Cat. No.:	HY-P73344
Synonyms:	CD279; hPD-1; PDCD1; Programmed cell death 1; SLEB2
Species:	Human
Source:	HEK293
Accession:	Q15116 (L25-Q167)
Gene ID:	5133
Molecular Weight:	55-66 kDa

PROPERTIES

Biological Activity	<p>1. Immobilized PD-1 Protein, Human, Recombinant (ECD, hFc Tag) at 2 µg/mL (100 µL/well) can bind PD-L2 Protein, Human, Recombinant (ECD, His Tag), the EC₅₀ is 45-280ng/mL.</p> <p>2. Immobilized Recombinant Human PD1 / PDCD1 / CD279 Protein (Fc Tag) at 2 µg/mL (100 µL/well) can bind Recombinant Human PD-L1 Protein (Fc & AVI Tag), Biotinylated, the EC₅₀ is 25-75 ng/mL.</p> <p>3. Labeled biotin to PD-1 Protein, Human, Recombinant (Fc Tag) by a certain molar ratio; Using the Octet RED System, the affinity constant (Kd) of PD-1 Protein, Human, Recombinant (Fc Tag), Biotinylated bound to Atezolizumab was 0.3 nM.</p>
Appearance	Solution
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. 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.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	<p>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.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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