

# PD-1

Catalog # PVGS1562

## Product Information

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<b>Primary Accession Species</b>	<a href="#">Q15116</a> Human
<b>Sequence</b>	Leu25-Gln167
<b>Purity</b>	> 95% as analyzed by SDS-PAGE
<b>Endotoxin Level Biological Activity</b>	Immobilized PD-1,His, Human at 2.0 µg/ml can bind PD-L1 Fc Chimera, Human (Cat. No.: Z03371).Immobilized PD-1,His, Human at 0.5 µg/ml can bind Keytruda.
<b>Expression System</b>	HEK 293
<b>Formulation Reconstitution</b>	Lyophilized from a 0.2 µm filtered solution in PBS, 5% trehalose and mannitol. It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH <sub>2</sub> O or PBS up to 100 µg/ml.
<b>Storage &amp; Stability</b>	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

## Additional Information

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<b>Gene ID</b>	5133
<b>Other Names</b>	Programmed cell death protein 1, Protein PD-1, hPD-1, CD279, PDCD1 {ECO:0000303 PubMed:7851902, ECO:0000312 HGNC:HGNC:8760}
<b>Target Background</b>	Programmed death (PD-1) is an immunoinhibitory receptor that belongs to the CD28 family and is expressed on T cells, B cells, monocytes, natural killer cells, and many tumor-infiltrating lymphocytes (TILs); PD-1 is a type I membrane protein of 268 amino acids and which structure includes an extracellular IgV domain followed by a transmembrane region and an intracellular tail. The intracellular tail contains two phosphorylation sites located in an immunoreceptor tyrosine-based inhibitory motif and an immunoreceptor tyrosine-based switch motif, which suggests that PD-1 negatively regulates TCR signals. This is consistent with binding of SHP-1 and SHP-2 phosphatases to the cytoplasmic tail of PD-1 upon ligand binding. It has 2 ligands that have been described PD-L1(B7H1) and PD-L2(B7-DC); PD-1 induction on activated T cells occurs in response to PD-L1 or L2 engagement

and limits effector T-cell activity in peripheral organs and tissues during inflammation, thus preventing autoimmunity. Recombinant Human PD-1 produced in HEK293 cells is a polypeptide chain containing 149 amino acids with C-terminal 6×His. A fully biologically active molecule, rhPD-1 has a molecular mass of 30-40 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques at .

## Protein Information

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<b>Name</b>	PDCD1 {ECO:0000303   PubMed:7851902, ECO:0000312   HGNC:HGNC:8760}
<b>Function</b>	Inhibitory receptor on antigen activated T-cells that plays a critical role in induction and maintenance of immune tolerance to self (PubMed: <a href="#">21276005</a> , PubMed: <a href="#">31754127</a> , PubMed: <a href="#">32184441</a> , PubMed: <a href="#">37208329</a> ). Delivers inhibitory signals upon binding to ligands CD274/PDCD1L1 and CD273/PDCD1LG2 (PubMed: <a href="#">21276005</a> , PubMed: <a href="#">26602187</a> ). Following T-cell receptor (TCR) engagement, PDCD1 associates with TCR-CD3 in the immunological synapse and directly inhibits T-cell activation (PubMed: <a href="#">32184441</a> ). Suppresses T-cell activation through the recruitment of PTPN11/SHP-2: following ligand-binding, PDCD1 is phosphorylated within the ITSM motif, leading to the recruitment of the protein tyrosine phosphatase PTPN11/SHP-2 that mediates dephosphorylation of key TCR proximal signaling molecules, such as ZAP70, PRKCQ/PKCtheta and CD247/CD3zeta (PubMed: <a href="#">32184441</a> ).
<b>Cellular Location</b>	Cell membrane; Single-pass type I membrane protein

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