10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PD-1

Catalog # PVGS1562

Specification

PD-1 - Product Information

Primary Accession Q15116

Species
Human

Sequence
Leu25-Gln167

Purity
> 95% as analyzed by SDS-PAGE

Endotoxin Level
< 0.2 EU/ μg of protein by gel clotting method

Biological Activity
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.

Expression System
HEK 293

Formulation **Lyophilized from a 0.2 μm filtered solution in PBS, 5% trehalose and mannitol.**

Reconstitution
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_2O or PBS up to 100 μg/ml.

Storage & Stability
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.

PD-1 - Additional Information

Gene ID 5133

Other Names
Programmed cell death protein 1, Protein PD-1, hPD-1, CD279, PDCD1 {ECO:0000303|PubMed:7851902, ECO:0000312|HGNC:HGNC:8760}

Target Background
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 .

PD-1 - Protein Information

Name PDCD1 {ECO:0000303|PubMed:7851902, ECO:0000312|HGNC:HGNC:8760}

Function
Inhibitory receptor on antigen activated T-cells that plays a critical role in induction and maintenance of immune tolerance to self (PubMed:21276005). Delivers inhibitory signals upon binding to ligands CD274/PDCD1L1 and CD273/PDCD1LG2 (PubMed:21276005). Following T-cell receptor (TCR) engagement, PDCD1 associates with CD3-TCR in the immunological synapse and directly inhibits T-cell activation (By similarity). 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 (By similarity).

Cellular Location
Cell membrane; Single-pass type I membrane protein

PD-1 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PD-1 - Images