

## DATASHEET

Version 20181206

# PD-1, His, Human

**Cat. No.:** Z03424-1

**Size:** 1.0 mg

**Synonyms:** PD-1; CD279; PDCD1

### Description:

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 6xHis. 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 GenScript.

### Amino Acid Sequence:

Leu<sup>25</sup>-Gln<sup>167</sup> (Accession #: Q15116), expressed with a C-terminal 6xHis

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00001 LDSPDRPWNF PTFSPALLVV TEGDNATFTC SFSNTSESFV
00041 LNWYRMSPSN QTDKLAAPPE DRSPGQDCR FRVTQLPNGR
00081 DFHMSVVRAR RNDSTYLCG AISLAPKAI KESLRAELRV
00121 TERRAEVPTA HPSPSPRPAG QFQHSHHHH
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**Source:** HEK293

**Biological Activity:** Immobilized PD-1,His, Human at 2 µg/mL can bind PD-L1 Fc Chimera, Human(Z03371) with a linear range of 24-390ng/mL. Immobilized PD-1,His, Human at 0.5 µg/mL can bind Keytruda(Merck) with a linear range of 0.017 1.37ng/mL.

**Molecular Weight:** 30-40 kDa, observed by reducing SDS-PAGE.

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

**Reconstitution:** Reconstituted in ddH<sub>2</sub>O or PBS at 100 µg/ml.

**Purity:** >95% as analyzed by reducing SDS-PAGE.

**Endotoxin Level:** < 0.2 EU/µg, determined by LAL method.

**Storage:** Lyophilized recombinant PD-1 remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, Human PD-1 should be stable 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.