

# PD-1/PDCD1, Human Recombinant

**CATALOG NO:** P1024-10 10 µg  
P1024-50 50 µg

**ALTERNATIVE NAMES:** PDCD1, PD1, CD279, SLEB2, hPD-1, hPD-I

**SOURCE:** *E. coli*

**FORM:** Lyophilized

**FORMULATION:** Lyophilized from 0.22 µm filtered solution in PBS

**PURITY:** ≥90% by SDS-PAGE and SEC analyses

**MOL. WT.:** 19.1 kDa (25-167 aa + N-terminal Poly-his tag)

**STORAGE CONDITIONS AND RECONSTITUTION:** Store at -20°C. Stable for at least 6 months as supplied. Reconstitute to 0.2-1 mg/ml in PBS, store at -80°C in aliquots and use within 6 months after reconstitution. Avoid repeated freeze-thaw cycles.

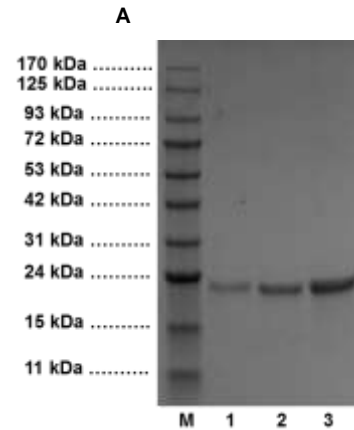
**BACKGROUND:** Programmed death protein 1 (PD-1) is also known as CD279 and PDCD1, is a type I membrane protein and is a member of the extended CD28/CTLA-4 family of T cell regulators. PDCD1 is expressed on the surface of activated T cells, B cells, macrophages, myeloid cells and a subset of thymocytes. PD-1 has two ligands, PD-L1 and PD-L2, which are members of the B7 family. PD-L1 is expressed on almost all murine tumor cell lines, including PA1 myeloma, P815 mastocytoma, and B16 melanoma upon treatment with IFN-γ. PD-L2 expression is more restricted and is expressed mainly by DCs and a few tumor lines. PD1 inhibits the T-cell proliferation and production of related cytokines including IL-1, IL-4, IL-10 and IFN-γ by suppressing the activation and transduction of PI3K/AKT pathway. In addition, coligation of PD1 inhibits BCR-mediated signal by dephosphorylating key signal transducer. In vitro, treatment of anti-CD3 stimulated T cells with PD-L1-Ig results in reduced T cell proliferation and IFN-γ secretion. Monoclonal antibodies targeting PD-1 that boost the immune system are being developed for the treatment of cancer. This protein is suitable for use in protein studies such as protein structure analysis and protein-protein interactions. It can also be used as an immunogen, as a protein standard, or in cell biology research applications.

**APPLICATIONS:** Human Recombinant PD-1 can be used in the activity or inhibitor screening, substrate profiling, western blotting, ELISA, and other functional assays.

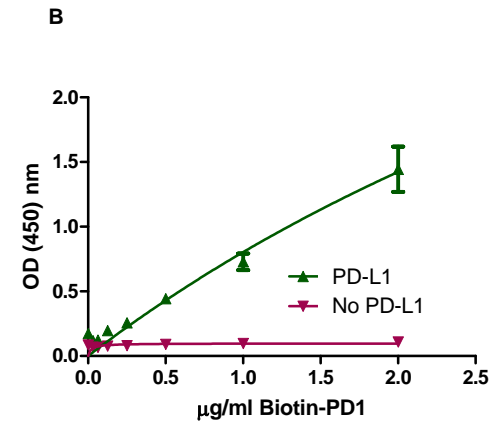
**SPECIFIC ACTIVITY:** BioVision's Human Recombinant PD-1 has been tested for its ability to bind Human PD-L1 in a functional ELISA with a linear range of 0.125-1 µg/ml.

For Research Use Only. Not to be used in humans.

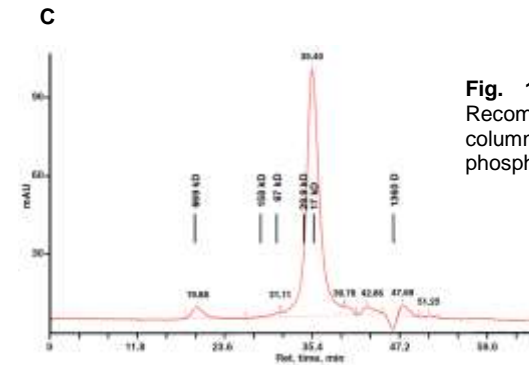
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**Fig. 1A: SDS-PAGE (4-20%) of Human Recombinant PD-1:**  
M: Protein Marker  
1: Human PD-1 (5 µg)  
2: Human PD-1 (10 µg)  
3: Human PD-1 (15 µg)



**Fig. 1B:** After biotinylation, Human Recombinant PD-1 is able to bind Human PD-L1 immobilized at 2 µg/ml in a functional ELISA (n = 3)



**Fig. 1C:** SEC analysis of Human Recombinant PD-1 using a Superose 6 column at 0.4 ml/min in 50 mM sodium phosphate, 300 mM NaCl, pH 7.5

**RELATED PRODUCTS:**

- PD-1 (human) ELISA Kit (Cat. No. K4153-100)
- PD-1/PD-L1 Inhibitor 2 (Cat. No. B1050-5,-25)
- Human CellExp™ Biotinylated PD-1 / PDCD1, His Tag & Fc Tag, human recombinant (Cat. No. 7877-5)
- Human CellExp™ PD-1 /PDCD1, C-Fc Tag, human recombinant (Cat. No. 7500-10,-50)
- Human CellExp™ PD-1 /PDCD1, human recombinant (Cat. No. 7498-10,-50,-100)

