



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human PD1 Protein
Catalog Number: hRP-1321
Manufacturer: LD Biopharma, Inc.

Introduction

Human programmed cell death protein 1 (PD-1, CD279) gene encodes a cell surface membrane protein of the immunoglobulin superfamily. CD279 protein is expressed in pro-B-cells and is thought to play a role in their differentiation. In mice, expression of this gene is induced in the thymus when anti-CD3 antibodies are injected and large numbers of thymocytes undergo apoptosis. Mice deficient for CD279 gene bred on a BALB/c background developed dilated cardiomyopathy and died from congestive heart failure. These studies suggest that CD279 gene product may also be important in T cell function and contribute to the prevention of autoimmune diseases.

Full-length length human PD1 extracellular domain cDNA (21-170aa, derived from BC074740) was constructed with codon optimization and expressed with human Alpha-Fetal Protein (AFP) N-terminal domain Tag (1-198 aa) fusion at PD1 N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: PD1 (PDCD1; hPD-1; CD279; SLEB2)
Accession Number: NP_005009.2
Species: Human
Size: 50 µg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Fourcade, J., et al., *CD8(+) T cells specific for tumor antigens can be rendered dysfunctional by the tumor microenvironment through upregulation of the inhibitory receptors BTLA and PD-1*. *Cancer Res.* 72 (4), 887-896 (2012)

Wiesmayr, S., et al., *Decreased NKp46 and NKG2D and elevated PD-1 are associated with altered NK-cell function in pediatric transplant patients with PTLN*. *Eur. J. Immunol.* 42 (2), 541-550 (2012)

Li, M., et al., *HBcAg induces PD-1 upregulation on CD4+T cells through activation of JNK, ERK and PI3K/AKT pathways in chronic hepatitis-B-infected patients*. *Lab. Invest.* 92 (2), 295-304 (2012)

Applications

1. May be used for in vitro pro-B and T cells differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used for protein-protein interaction assay.
3. As potential diagnostic biomarker protein for monitoring NK, B and T cell activities in vivo.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMKNFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSNIEFPGWFLDSPDRPWNPTFSPALLVVTEGDNATFTCSFSNTSESFVLNWYRM
SPSNQTDKLAAPEDRSQPGQDCRFRVTQLPNGRDFHMSVVRARRNDSGTYLCAIISLAPKAQI
KESLRAELRVTERRAEVPTAHPSPPRPAGQFQTLV