

Recombinant Human PDCD1, His-tagged

Cat. No. PDCD1-217H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human PDCD1 /PD1 /CD279 MS Standard Protein, C13 and N15-labeled (PD1/PDCD1 (21-167), Heavy Labeled) Pro 21 - Gln 167 (Accession # NP_005009.2) was produced in human 293 cells (HEK293) with fully chemically defined cell culture medium to obtain
Species	Human
Source	HEK293
ProteinLength	21-167 a.a.
Description	Programmed cell 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-

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

1 that boost the immune system are being developed for the treatment of cancer.

Form	Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally Mannitol or Trehalose are added as protectants before lyophilization.
Molecular Mass	PD1/PDCD1 (21-167), Heavy Labeled is fused with a polyhistidine tag at the C-terminus, and has a calculated MW of 17.3 kDa. The predicted N-terminus is Pro 21. DTT-reduced Protein migrates as 24-45 kDa in SDS-PAGE due to glycosylation.
Endotoxin	Less than 1.0 EU per µg of the PD1/PDCD1 (21-167), Heavy Labeled by the LAL method.
Purity	>90% as determined by SDS-PAGE.
Storage	Avoid repeated freeze-thaw cycles.No activity loss was observed after storage at:In lyophilized state for 1 year (4oC); After reconstitution under sterile conditions for 3 months (-70oC).
Reconstitution	See Certificate of Analysis for reconstitution instructions and specific concentrations.

GENE INFORMATION

Gene Name	PDCD1 programmed cell death 1 [Homo sapiens]
Official Symbol	PDCD1
Synonyms	PDCD1; programmed cell death 1; programmed cell death protein 1; CD279; PD1; protein PD-1; PD-1; SLEB2; hPD-1; hPD-I;
Gene ID	5133

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mRNA Refseq	NM_005018
Protein Refseq	NP_005009
MIM	600244
UniProt ID	Q15116
Chromosome Location	2q37.3
Pathway	Adaptive Immune System, organism-specific biosystem; Cell adhesion molecules (CAMs), organism-specific biosystem; Cell adhesion molecules (CAMs), conserved biosystem; Costimulation by the CD28 family, organism-specific biosystem; Immune System, organism-specific biosystem; PD-1 signaling, organism-specific biosystem; T cell receptor signaling pathway, organism-specific biosystem;
Function	protein binding; protein tyrosine phosphatase activity; signal transducer activity;