

## Active Recombinant Human PDCD1 Protein, His-tagged

Cat. No. PDCD1-190H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant Human PDCD1 Protein extracellular domain 21-167aa (signal peptide removed), fused with a C-terminal 6\*His tag, was expressed in CHO.

**Species** Human

**Source** CHO

**ProteinLength** 21-167 a.a.

#### Description

Programmed cell death 1, also known as PDCD1, is a type I transmembrane glycoprotein, and is an immunoreceptor belonging to the CD28/CTLA-4 family negatively regulates antigen receptor signaling by recruiting protein tyrosine phosphatase, SHP-2 upon interacting with either of two ligands, PD-L1 or PD-L2. PD1 inhibits the T-cell proliferation and production of related cytokines including IL-1, IL-4, IL-10 and IFN- $\gamma$  by suppressing the activation and transduction of PI3K/AKT pathway. In addition, coligation of PD1 inhibits BCR-mediated signal by dephosphorylating key signal transducer. PD1 has been suggested to be involved in lymphocyte clonal selection and peripheral tolerance, and thus contributes to the prevention of autoimmune diseases. Furthermore, PD1 is shown to be a regulator of virus-specific CD8<sup>+</sup> T cell survival in HIV infection. As a cell surface molecule, PDCD1 regulates the adaptive immune response. Engagement of PD-1 by its ligands PD-L1 or PD-L2 transduces a signal that inhibits T-cell proliferation, cytokine production, and cytolytic function.

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<b>Predicted N Terminal</b>	Pro 21
<b>Form</b>	Lyophilized from sterile PBS, pH 7.4.
<b>Bio-activity</b>	Measured by its binding ability in a functional ELISA. Immobilized human PD-1 at 10 µg/ml (100 µl/well) can bind recombinant human B7-H1 / PD-L1 / Fc chimera with a linear range of 0.02-0.4 µg/ml.
<b>Molecular Mass</b>	The recombinant mature human PD1 consists of 153 amino acids and predicts a molecular mass of 17.4 kDa.
<b>Endotoxin</b>	<1.0EU/ug, LAL method
<b>Purity</b>	>95% (SDS-PAGE)
<b>Stability</b>	Samples are stable for up to twelve months from date of receipt at -70°C.
<b>Storage</b>	Store it under sterile conditions at -20°C~-70°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
<b>Reconstitution</b>	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

## GENE INFORMATION

<b>Gene Name</b>	<a href="#">PDCD1 programmed cell death 1 [ Homo sapiens ]</a>
<b>Official Symbol</b>	<a href="#">PDCD1</a>
<b>Synonyms</b>	PDCD1; programmed cell death 1; programmed cell death protein 1; CD279; PD1; protein PD-1; PD-1; SLEB2; hPD-1; hPD-I;

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<b>Gene ID</b>	5133
<b>mRNA Refseq</b>	NM_005018
<b>Protein Refseq</b>	NP_005009
<b>MIM</b>	600244
<b>UniProt ID</b>	Q15116
<b>Chromosome Location</b>	2q37.3
<b>Pathway</b>	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;
<b>Function</b>	protein binding; protein tyrosine phosphatase activity; signal transducer activity;

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