

# Rat PD1 / PDCD1 Protein (Fc Tag)

Catalog Number: 80448-R02H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

PDCD1

### Protein Construction:

A DNA sequence encoding the rat PDCD1 (NP\_001100397.1)(Met1-Gln167) was expressed with the Fc region of human IgG1 at the C-terminus.

**Source:** Rat

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio Activity:

**Immobilized PD-1 Protein, Rat, Recombinant (hFc Tag) (Cat:80448-R02H) at 2 µg/mL (100 µL/well) can bind PD-L2 Protein, Mouse, Recombinant (His Tag) (Cat:50804-M08H), the EC<sub>50</sub> is 120-780 ng/mL.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

**Predicted N terminal:** Leu 25

### Molecular Mass:

The recombinant rat PDCD1/Fc is a disulfide-linked homodimer. The reduced monomer comprises 384 amino acids and has a predicted molecular mass of 43.2 kDa. The apparent molecular mass of the protein is approximately 118.8 and 58.4 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

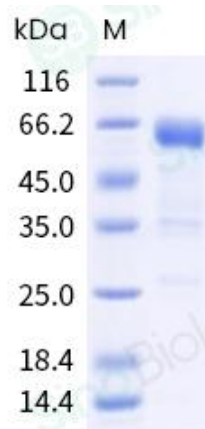
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein 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-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. 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+ 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.

## References

1. James ES, *et al.* (2005) PDCD1: a tissue-specific susceptibility locus for inherited inflammatory disorders. *Genes Immun.* 6(5): 430-7.
2. Okazaki T, *et al.* (2007) PD-1 and PD-1 ligands: from discovery to clinical application. *Int Immunol.* 19(7): 813-24.
3. del Rio ML, *et al.* (2008) PD-1/PD-L1, PD-1/PD-L2, and other co-inhibitory signaling pathways in transplantation. *Transpl Int.* 21(11): 1015-28.