# Canine PD1 / PDCD1 / CD279 Protein (Fc Tag)

**Catalog Number:** 70109-D02H

## General Information

**Gene Name Synonym:**

PDCD1

**Protein Construction:**

A DNA sequence encoding the canine PDCD1 (XP_543338.3) (Met1-Leu169) was expressed with the Fc region of human IgG1 at the C-terminus.

**Source:** Canine

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** ≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.

**Bio Activity:**

1.Immobilized PD-1 Protein, Canine, Recombinant (hFc Tag)(Cat:70109-D02H) at 2 μg/mL (100 μL/well) can bind PD-L1 Protein, Canine, Recombinant (hFc Tag), Biotinylated(Cat:70110-D02H-B),the EC50 is 300-1200 ng/mL. (Routinely tested)
2. Loaded Recombinant Canine PD-L1/B7-H1 Protein, His Tag (Cat. No. 70110-D08H) on NTA Biosensor, can bind Recombinant Canine PD-1 Protein, hFc Tag (Cat. No. 70109-D02H) with an affinity constant of 44.1 nM as determined in BLI assay (Sartorius Octet RED384) (QC tested).

**Endotoxin:**

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

**Predicted N terminal:** Leu 25

**Molecular Mass:**

The recombinant canine PDCD1 consists 383 amino acids and predicts a molecular mass of 43 kDa.

**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℃ to -80℃.

Store it under sterile conditions at -20℃ to -80℃ 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-1 and IFN-γ by suppressing the activation and transduction of PI3K/AKT pathway. In addition, coligation of PD1 inhibits BCR-mediating 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.