

Recombinant Cynomolgus PDCD1 protein, His-tagged

Cat. No. PDCD1-5223C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Cynomolgus PDCD1 protein (Leu25-Gln167), fused to His tag at C-terminus, was expressed in human 293 cells (HEK293).
Species	Cynomolgus
Source	HEK293
ProteinLength	143
Description	<p>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-1 that boost the immune system are being developed for the treatment of cancer.</p>

 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

Form	Lyophilized from 0.22 um filtered solution in PBS, pH7.4, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 16.8 kDa. The protein migrates as 35-45 kDa under reducing (R) condition (SDS-PAGE) due to different glycosylation.
Endotoxin	Less than 1.0 EU per ug by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	<p>For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower.</p> <p>Please avoid repeated freeze-thaw cycles.</p> <p>This product is stable after storage at:</p> <ul style="list-style-type: none"> -20 centigrade to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	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

Gene Name	PDCD1
Official Symbol	PDCD1
Synonyms	CD279, PD-1, PD1, SLEB2, hPD-1, hPD-I, hSLE1
Gene ID	102123659
mRNA Refseq	NM_001284136.1

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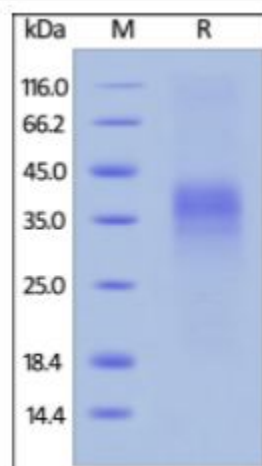
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Protein Refseq NP_001271065.1

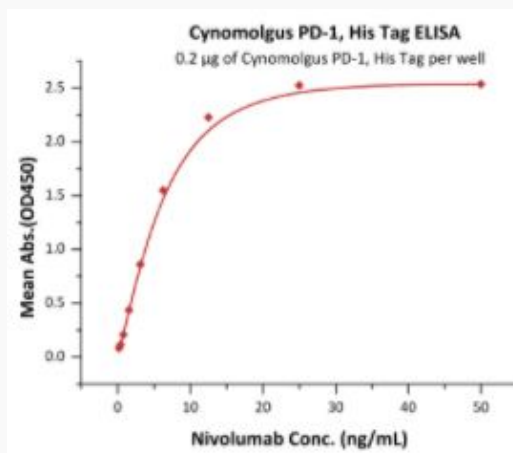
UniProt ID B0LAJ3

**SDS-PAGE of
PDCD1-5223C**




Cynomolgus PD-1, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

**Bioactivity-ELISA of
PDCD1-5223C**



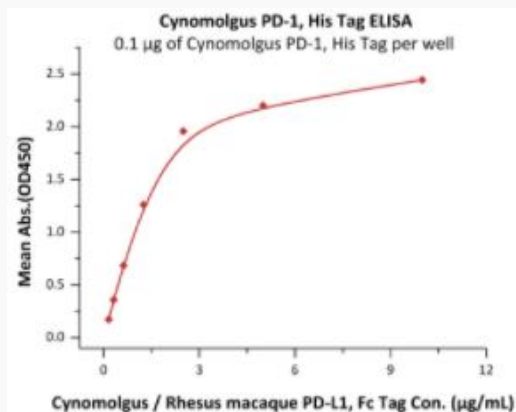
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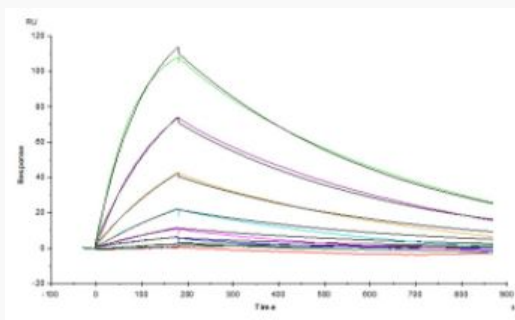
Immobilized Cynomolgus PD-1, His Tag at 2 $\mu\text{g/mL}$ (100 $\mu\text{L/well}$) can bind Nivolumab with a linear range of 0.2-13 ng/mL (QC tested).

Bioactivity-ELISA of PDCD1-5223C



Immobilized Cynomolgus PD-1, His Tag at 1 $\mu\text{g/mL}$ (100 $\mu\text{L/well}$) can bind Cynomolgus/Rhesus macaque PD-L1, Fc Tag with a linear range of 0.156-2.5 $\mu\text{g/mL}$ (Routinely tested).

Bioactivity-SPR of PDCD1-5223C



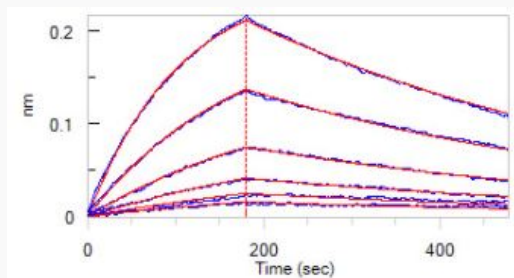
Opdivo (Nivolumab) captured on CM5 chip via anti-human IgG Fc antibodies surface, can bind Cynomolgus PD-1, His Tag with an affinity constant of 18.1 nM as determined in a SPR assay (Routinely tested).

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**Bioactivity-BLI of
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Loaded Opdivo (Nivolumab) on Protein A Biosensor, can bind Cynomolgus PD-1, His Tag with an affinity constant of 17.5 nM as determined in BLI assay (Routinely tested).

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