

**Synonym**

PDCD1,PD1,CD279,SLEB2

**Source**

Cynomolgus PD-1, His Tag (PD1-C5223) is expressed from human 293 cells (HEK293). It contains AA Leu 25 - Gln 167 (Accession # [B0LAJ3](#)).

Predicted N-terminus: Leu 25

**Molecular Characterization**

PD-1(Leu 25 - Gln 167)  
B0LAJ3 Poly-his

This protein carries a polyhistidine tag at the C-terminus.

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 µg by the LAL method.

**Purity**

>95% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

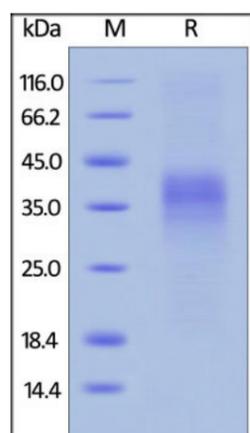
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

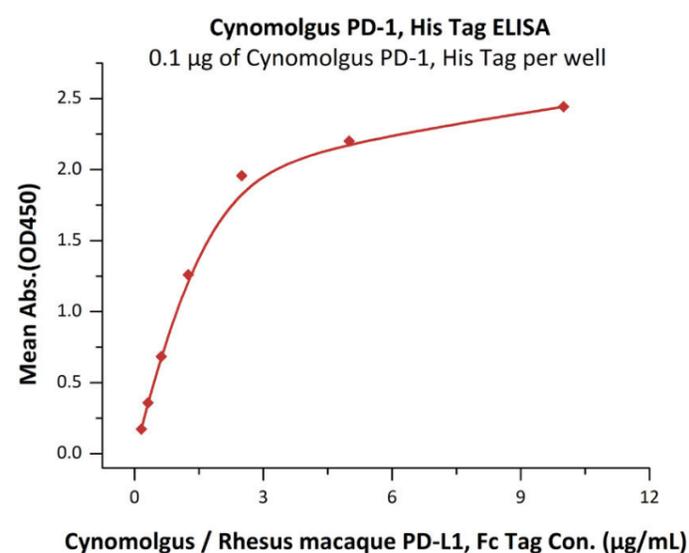
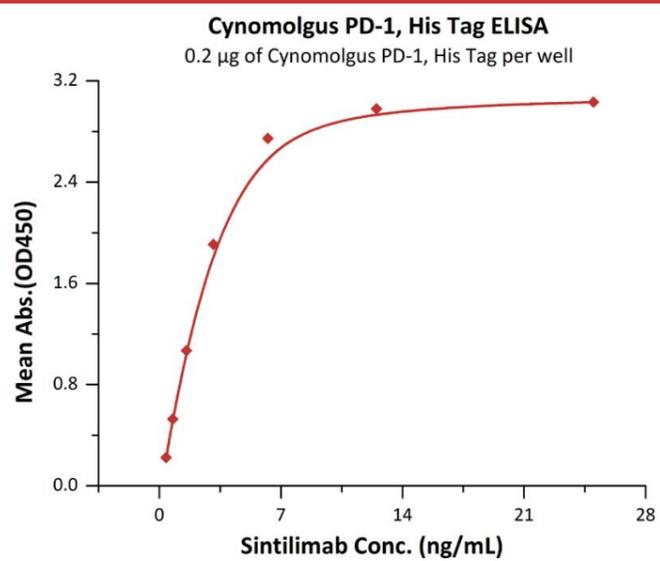
This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

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%.

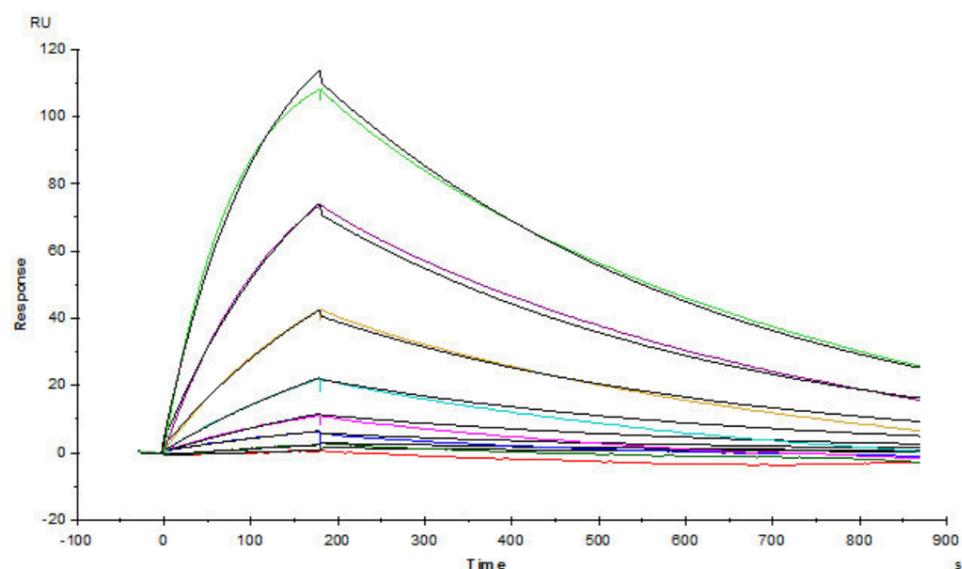
**Bioactivity-ELISA**



Immobilized Cynomolgus PD-1, His Tag (Cat. No. [PD1-C5223](#)) at 2 µg/mL (100 µL/well) can bind Sintilimab with a linear range of 0.4-6 ng/mL (QC tested).

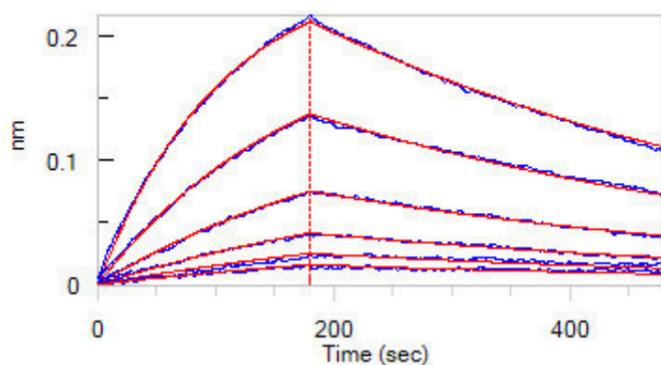
Immobilized Cynomolgus PD-1, His Tag (Cat. No. [PD1-C5223](#)) at 1 µg/mL (100 µL/well) can bind Cynomolgus / Rhesus macaque PD-L1, Fc Tag (Cat. No. [PD1-C5253](#)) with a linear range of 0.156-2.5 µg/mL (Routinely tested).

**Bioactivity-SPR**

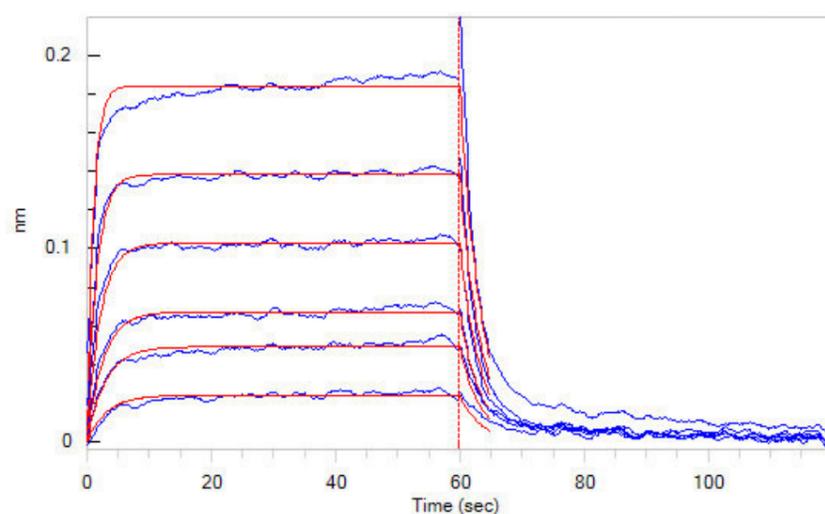


Opdivo(Nivolumab) captured on CM5 chip via anti-human IgG Fc antibodies surface, can bind Cynomolgus PD-1, His Tag (Cat. No. [PD1-C5223](#)) with an affinity constant of 18.1 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

**Bioactivity-BLI**



Loaded Opdivo (Nivolumab) on Protein A Biosensor, can bind Cynomolgus PD-1, His Tag (Cat. No. [PD1-C5223](#)) with an affinity constant of 17.5 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Cynomolgus / Rhesus macaque PD-L1, Fc Tag (Cat. No. PD1-C5253) on Protein A Biosensor, can bind Cynomolgus PD-1, His Tag (Cat. No. PD1-C5223) with an affinity constant of 3.1  $\mu$ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

**Background**

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- $\gamma$ . 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- $\gamma$  by suppressing the activation and transduction of PI3K/AKT pathway. In addition, coligation of PD1 inhibits BCR-mediated signal by dephosphorylating key signal transducer. In vitro, treatment of anti-CD3 stimulated T cells with PD-L1-Ig results in reduced T cell proliferation and IFN- $\gamma$  secretion. Monoclonal antibodies targeting PD-1 that boost the immune system are being developed for the treatment of cancer.

**References**

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.