



## Synonym

PDCD1, PD1, CD279, SLEB2

## Source

Rat PD-1, His Tag(PD1-R52H2) is expressed from human 293 cells (HEK293).

It contains AA Leu 25 - Gln 167 (Accession # [NP\\_001100397.1](#)).

Predicted N-terminus: Leu 25

## Molecular Characterization

PD-1(Leu 25 - Gln 167)  
NP\_001100397.1 Poly-his

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

The protein has a calculated MW of 18.1 kDa. The protein migrates as 30-44 kDa under reducing (R) condition (SDS-PAGE) due to 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 with trehalose as protectant.

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

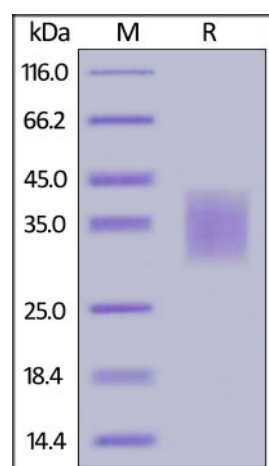
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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



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

## Bioactivity-ELISA

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and more!

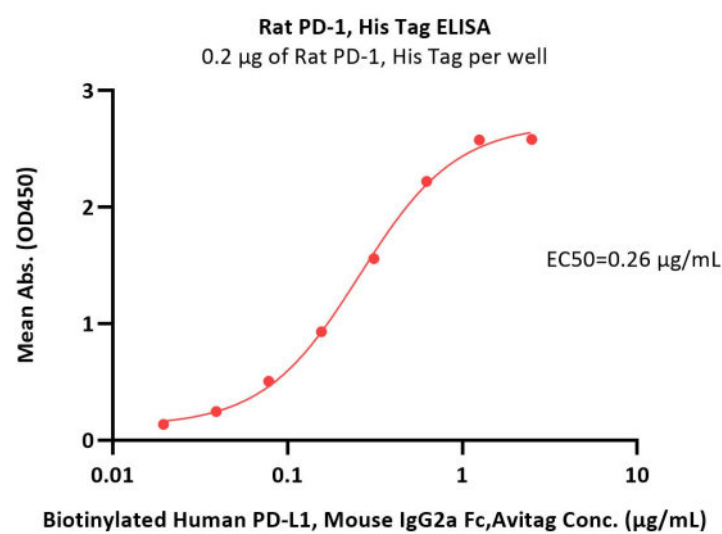


# Rat PD-1 / PDCD1 Protein, His Tag

Catalog # PD1-R52H2



BIOSYSTEMS  
**Acro**  
Surprise Inside!



Immobilized Rat PD-1, His Tag (Cat. No. PD1-R52H2) at 2 µg/mL (100 µL/well) can bind Biotinylated Human PD-L1, Mouse IgG2a Fc, Avitag (Cat. No. PD1-H82A3) with a linear range of 0.02-0.313 µg/mL (QC 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.

## Clinical and Translational Updates

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