

Human PD-1 / PDCD1 Protein, Fc Tag (HPLC-verified), low endotoxin

Catalog # AMS.PD1-H5257

For Research Use Only

Description

Source Human PD-1, Fc Tag (HPLC-verified) (PD1-H5257) is expressed from human 293 cells (HEK293). It contains AA Leu 25 - Gln 167 (Accession # NP_005009.2). N-terminal Sequence Analysis: Leu 25

Predicted N-terminus Leu 25

Protein Structure

PD-1(Leu 25 - Gln 167) NP_005009.2	Fc(Pro 100 - Lys 330) P01857
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Molecular Characterization This protein carries a human IgG1 Fc tag at the C-terminus. The protein has a calculated MW of 42.6 kDa. The protein migrates as 56-66 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin Less than 0.1 EU per µg by the LAL method.

Purity >95% as determined by SDS-PAGE.

>90% as determined by SEC-HPLC.

Bioactivity Measured by its binding ability in a functional ELISA. Immobilized Human PD-L1, His Tag (Cat. No. PD1-H5229) at 5 µg/mL (100 µL/well) can bind Human PD-1, Fc Tag (Cat. No. PD1-H5257) with a linear range of 0.625-20 µg/mL (QC tested). Measured by its binding ability in a functional ELISA. Immobilized Human PD-1, Fc Tag (Cat. No. PD1-H5257) at 2 µg/mL (100 µL/well) can bind Biotinylated Human PD-L2, Fc Tag, Avi Tag (Cat. No. PD2-H82F6) with a linear range of 0.5-16 ng/mL. (Routinely tested).

Formulation and Storage

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.

No activity loss was observed after storage at:

- 4-8°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

Background

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-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.

References

- (1) Ishida Y., et al., 1992, EMBO J. 11 (11): 3887-95.
- (2) Blank C., et al., 2007, Cancer Immunol. Immunother. 56 (5): 739-45.
- (3) Agata Y., et al., 1996, Int. Immunol. 8 (5): 765-72.

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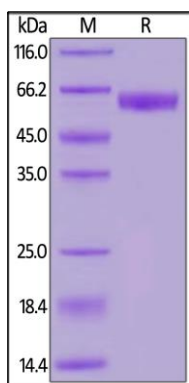
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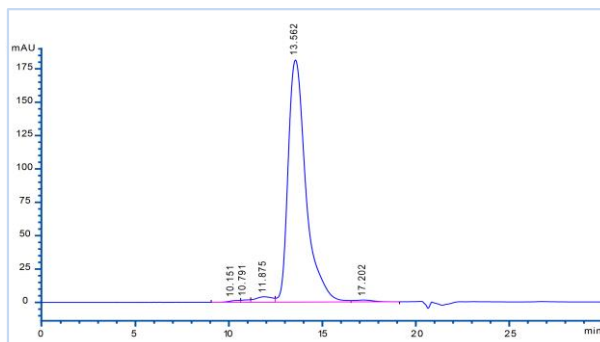
Assay Data

SDS PAGE Data



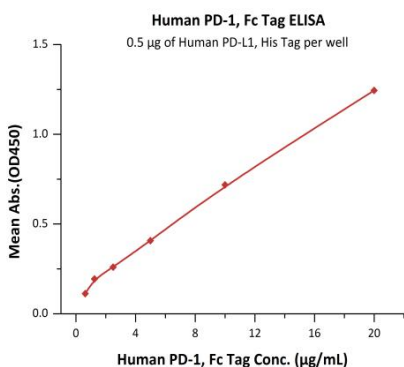
Human PD 1, Fc Tag (HPLC verified) on SDS PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

HPLC Data

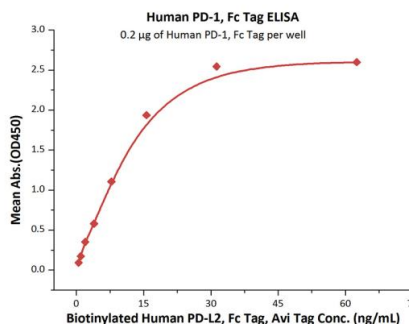


The purity of Human PD-1, Fc Tag (HPLC-verified)(Cat.# PD1-H5257) was greater than 90% as determined by SEC HPLC.

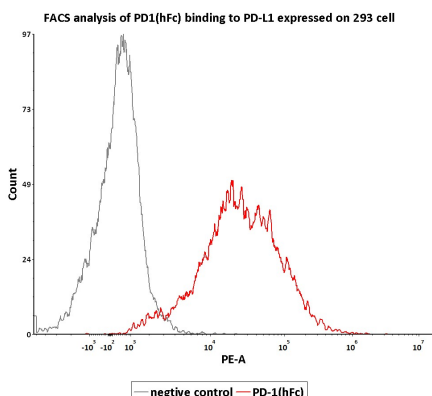
Bioactivity Data



Immobilized Human PD L1, His Tag (Cat. No. PD1 H5229) at 5 µg/mL (100 µL/well) can bind Human PD-1, Fc Tag (Cat. No. PD1-H5257) with a linear range of 0.625-20 µg/mL (QC tested).



Immobilized Human PD-1, Fc Tag (Cat. No. PD1-H5257) at 2 µg/mL (100 µL/well) can bind Biotinylated Human PD-L2, Fc Tag, Avi Tag (Cat. No. PD2 H82F6) with a linear range of 0.5-16 ng/mL. (Routinely tested).



Flow Cytometry assay shows that recombinant Human PD-1, Fc Tag (Cat. No. PD1-H5257) can bind to 293 cell overexpressing human PD-L1. The concentration of PD-1 used is 1 µg/mL (Routinely tested).

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