

Human PD-1 / PDCD1 Protein, Llama IgG2b Fc Tag, low endotoxin

Catalog # PD1-H5259

For Research Use Only

Description

Source Human PD-1, Llama IgG2b Fc Tag, low endotoxin (PD1-H5259) is expressed from human 293 cells (HEK293). It contains AA Leu 25 - Gln 167 (Accession # Q15116-1). Predicted N-terminus: Leu 25

Predicted N-terminus Leu 25

Protein Structure

PD-1(Leu 25 - Gln 167) Q15116-1	LlamaFc(Glu1 - Ser243) AAX73259.1
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Molecular Characterization This protein carries a llama IgG2b Fc tag at the C-terminus. The protein has a calculated MW of 43.8 kDa. The protein migrates as 55-75 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin Less than 0.01 EU per µg by the LAL method.

Purity >95% as determined by SDS-PAGE.

Bioactivity Measured by its binding ability in a functional ELISA. Immobilized Human PD-L1, Mouse IgG1 Fc Tag (Cat. No. PD1-H52A3) at 0.5 µg/mL (100 µL/well) can bind Human PD-1, Llama IgG2b Fc Tag, low endotoxin (Cat. No. PD1-H5259) with a linear range of 20-313 ng/mL (QC tested).

Formulation and Storage

Formulation Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 100 mM Glycine, pH7.5. 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. 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.

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.
- (4) Freeman G.J., et al., 2000, J. Exp. Med. 192 (7): 1027-34.
- (5) Latchman Y., et al., 2001, Nat. Immunol. 2 (3): 261-8.
- (6) Yamazaki T., et al., 2002, J. Immunol. 169 (10): 5538-45.

Please contact us at TechSupport@acrobiosystems.com, if you have any questions about this product.

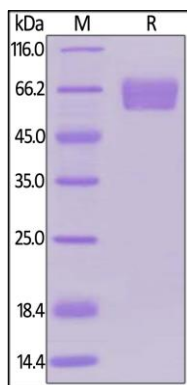
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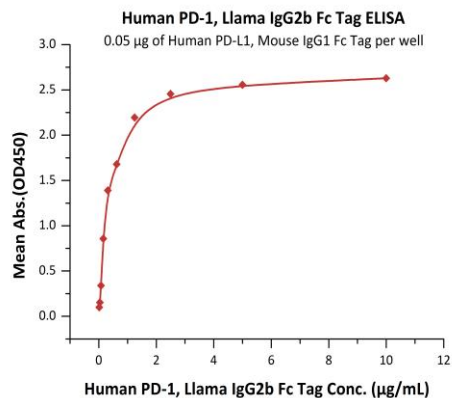
Assay Data

SDS-PAGE Data



Human PD-1, Llama IgG2b Fc Tag, low endotoxin 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 Data



Immobilized Human PD-L1, Mouse IgG1 Fc Tag (Cat. No. PD1-H52A3) at 0.5 µg/mL (100 µL/well) can bind Human PD-1, Llama IgG2b Fc Tag, low endotoxin (Cat. No. PD1-H5259) with a linear range of 20-313 ng/mL (QC tested).

Please note that there may be a cross-reaction between anti-human IgG Fc antibodies and llama IgG Fc tag, also between anti-llama IgG Fc antibodies and human IgG Fc tag.