

Synonym

PDCD1,PD1,CD279,SLEB2

Source

PE-Labeled Human PD-1, Fc,His Tag (Cat. No. PD1-HP2F2) is produced via site-specific conjugation of PE to Human PD-1, Fc,His Tag under optimal conditions with a proprietary technology. Human PD-1, Fc,His Tag is expressed from human 293 cells (HEK293). It contains AA Leu 25 - Gln 167 (Accession # [Q15116-1](#)).

Predicted N-terminus: Leu 25

Molecular Characterization

PD-1(Leu 25 - Gln 167) Q15116-1	Fc(Pro 100 - Lys 330) P01857	Poly-his
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This protein carries a human IgG1 Fc tag at the C-terminus, followed by a polyhistidine tag.

The protein has a calculated MW of 44.7 kDa.

Application

Flow Cytometry (Neutralizing assay), Please note that this product is NOT compatible to streptavidin detection system.

Conjugate

PE

Excitation Wavelength: 488 nm / 561 nm

Emission Wavelength: 575 nm

Formulation

Lyophilized from 0.22 μ m filtered solution in PBS, 0.5% BSA, 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.

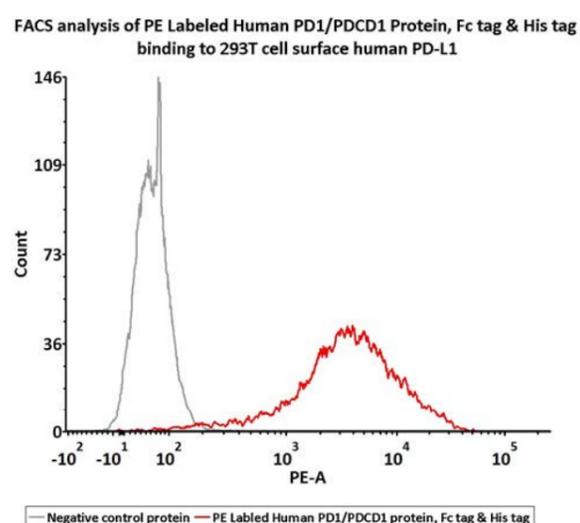
Storage

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

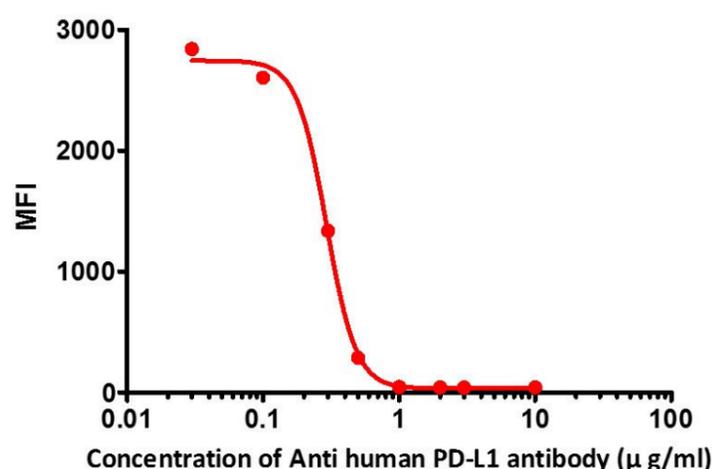
Please protect from light and avoid repeated freeze-thaw cycles.

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.

Bioactivity-FACS

Flow Cytometry assay shows that PE-Labeled Human PD-1, Fc,His Tag (Cat. No. PD1-HP2F2) can bind to 293T cells overexpressing human PD-L1. 1 μ L stock solution per million cells (QC tested).

Neutralizing Anti-human PD-L1 antibody screening assay

FACS analysis shows that the binding of PE-Labeled Human PD-1, Fc,His Tag (Cat. No. PD1-HP2F2) to 293T overexpressing PD-L1 was inhibited by increasing concentration of neutralizing anti-human PD-L1 antibody. The IC50 is 0.29 μ g/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- 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.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.