**Biotinylated Human PD-1 / PDCD1 Protein, Avitag™,His Tag (recommended for biopanning)**

**Catalog # PD1-H82E4**

**Synonym**

PDCD1, PD1, CD279, SLEB2

**Source**

Biotinylated Human PD-1, Avitag, His Tag (recommended for biopanning) (PD1-H82E4) is expressed from human 293 cells (HEK293). It contains AA Leu 25 - Gln 167 (Accession # Q15116-1).

N-terminal Sequence Analysis: Leu 25

**Molecular Characterization**

This protein carries an Avi tag (Avitag™) at the C-terminus, followed by a polyhistidine tag.

The protein has a calculated MW of 18.6 kDa. The protein migrates as 35-45 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Application**

PD1-H82E4 works best for experiments that test the binding between PD-1 and candidate antibodies, such as biopanning and other relevant assays.

This product is NOT suitable for testing PD1-PDL1 binding. For this type of application, we strongly recommend you to choose PD1-H82F2 as an alternative.

**Biotinylation**

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

**Biotin:Protein Ratio**

The biotin to protein ratio is 0.5-1 as determined by the HABA assay.

**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, pH 7.4. 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.

**SDS-PAGE**

Biotinylated Human PD-1, Avitag, His Tag (recommended for biopanning) 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 Nivolumab at 2 μg/mL (100 μL/well) can bind Biotinylated Human PD-1, Avitag, His Tag (recommended for biopanning) (Cat. No. PD1-H82E4) with a linear range of 0.8-13 ng/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-mediating 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


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