

hPD1-Fc

Soluble human PD-1 fused to an IgG1 Fc domain

Cat. code: fc-hpd1

<https://www.invivogen.com/pd1-fc>

For research use only

Version 23L08-NJ

PRODUCT INFORMATION

Content:

- 50 µg of lyophilized hPD1-Fc protein
- 1.5 ml endotoxin-free water

Protein construction:

Codon-optimized human PD-1 N-terminal extra-cellular domain [F24-Q167] with a C-terminal human IgG1 Fc tag

Accession sequence: XP_006712636.1 (native sequence)

Species: Human

Source: CHO cells

Tag: C-terminal human IgG1 Fc

Total protein size: 388 a.a. (secreted form)

Molecular weight: ~ 62 kDa (SDS-PAGE)

Purification: Protein G affinity chromatography

Purity: >97% (SDS-PAGE)

Formulation:

0.2 µm filtered solution in sodium phosphate buffer with glycine, saccharose, and stabilizing agents.

Storage:

- Product is shipped at room temperature. Store lyophilized hPD1-Fc at -20°C. Lyophilized product is stable for at least 1 year.
- Reconstituted hPD1-Fc is stable for 1 month when stored at 4°C and for 1 year when stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control:

- The size and purity of the protein has been confirmed by SDS-PAGE.
- hPD1-Fc has been validated by flow cytometry using Raji-APC-hPD-L1 cells, and by ELISA using Anti-hPD1-hIgG1 mAbs.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

PRODUCT DESCRIPTION

hPD1-Fc is a soluble human PD-1 chimera protein generated by fusing the N-terminal extracellular domain of human PD-1 (aa 24-167) to the N-terminus of a human IgG1 Fc domain with a cleavable TEV (Tobacco Etch Virus) sequence linker. Thus, depending on your applications, the IgG1 Fc domain can be removed using the TEV protease. hPD1-Fc has an apparent molecular weight of ~62 kDa on an SDS-PAGE gel. It is expressed in CHO cells and purified by protein G affinity chromatography.

BACKGROUND

Programmed cell death 1 (PD-1; also known as CD279) is a type I transmembrane protein expressed at the cell surface of activated and exhausted conventional T cells. PD-1 is an inhibitory immune checkpoint that prevents T-cell overstimulation and host damage. PD-1 interaction with its ligands PD-L1 and PD-L2 induces inhibition of TCR¹. Under physiological conditions, this interaction is essential in the development of immune tolerance preventing excessive immune cell activity^{2,3}.

1. Ribas A. and Wolchock J.D., 2018. Cancer immunotherapy using checkpoint blockade. *Science*. 359:1350-55. **2. Juneja, V.R. et al. 2017.** PD-L1 on tumor cells is sufficient for immune evasion in immunogenic tumors and inhibits CD8 T cell cytotoxicity. *J Exp Med* 214, 895-904. **3. Kythreotou, A. et al. 2018.** PD-L1. *J Clin Pathol* 71, 189-194.

APPLICATIONS

hPD1-Fc can be used for:

- Screening of high-affinity anti-human PD-1 monoclonal antibodies (mAbs) by ELISA
 - Screening of anti-human PD-L1 mAbs using competition assays.
- The optimal working concentration of hPD1-Fc must be determined empirically for a given set of experimental conditions.

METHODS

hPD1-Fc resuspension (100 µg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

- Add 500 µl of endotoxin-free water to the 50 µg vial and gently pipette until completely resuspended. Do not vortex.
- Prepare aliquots and store at -20°C or 4°C.

RELATED PRODUCTS

Product	Cat. Code
Anti-hPD1-Pem-hIgG1	hpd1pe-mab1
Anti-hPD1-Ni-hIgG1	hpd1ni-mab1
Anti-hPD-L1-hIgG1	hpd1-mab1
Jurkat-Raji PD-1/PD-L1 assay	rajkt-hpd1
hPD-L1-Fc	fc-hpd1

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Asia: +852 3622-3480

E-mail: info@invivogen.com