

Product datasheet

Recombinant human PD1 protein (Fc Chimera Active) ab221398

[8 Images](#)

Description

Product name	Recombinant human PD1 protein (Fc Chimera Active)
Biological activity	Immobilized Human PD-L1, His Tag at 1 µg/mL (100 µL/well) can bind ab221398 with a linear range of 0.1-3 ng/mL.
Purity	> 95 % SDS-PAGE. >90% as determined by SEC-HPLC. Protein A purified.
Endotoxin level	< 0.100 Eu/g
Expression system	HEK 293 cells
Accession	<u>Q15116</u>
Protein length	Protein fragment
Animal free	No
Nature	Recombinant
Species	Human
Sequence	LDSPDRPWNPTTFSPALLVVTEGDNATFTCSFSNTSESF VLNWYRMSPSN QTDKLAAFPEDRSQPGQDCRFRVTQLPNGRDFHMSVVR ARRNDSGTLYLCG AISLAPKAQIKESLRAELRVTERRAEVPTAHPSPSPRPAG QFQ
Predicted molecular weight	43 kDa including tags
Amino acids	25 to 167
Tags	Fc tag C-Terminus
Additional sequence information	This protein carries a human IgG1 Fc tag at the C-terminus.

Specifications

Our **Abpromise guarantee** covers the use of **ab221398** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE
	Functional Studies

HPLC

Form

Lyophilized

Additional notes

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.

Preparation and Storage

Stability and Storage

Shipped at 4°C. Store at -80°C. Avoid freeze / thaw cycle.

pH: 7.40

Constituents: PBS, 5% Trehalose

This product is an active protein and may elicit a biological response in vivo, handle with caution.

Reconstitution

Reconstitute with sterile deionized water to a concentration of 400 μ g/ml.

General Info

Function

Possible cell death inducer, in association with other factors.

Involvement in disease

Genetic variation in PDCD1 is associated with susceptibility to systemic lupus erythematosus type 2 (SLEB2) [MIM:605218]. Systemic lupus erythematosus is a chronic, inflammatory and often febrile multisystemic disorder of connective tissue. It affects principally the skin, joints, kidneys and serosal membranes. It is thought to represent a failure of the regulatory mechanisms of the autoimmune system.

Sequence similarities

Contains 1 Ig-like V-type (immunoglobulin-like) domain.

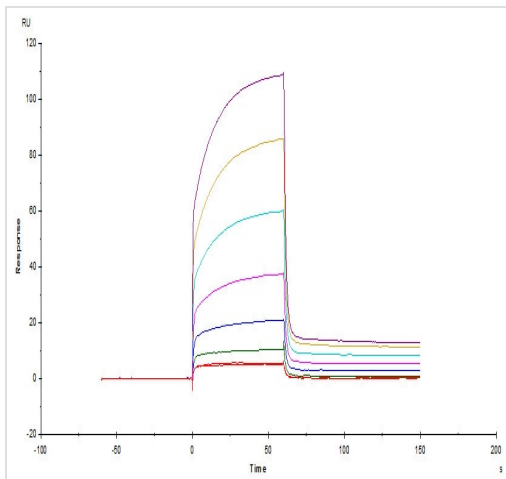
Developmental stage

Induced at programmed cell death.

Cellular localization

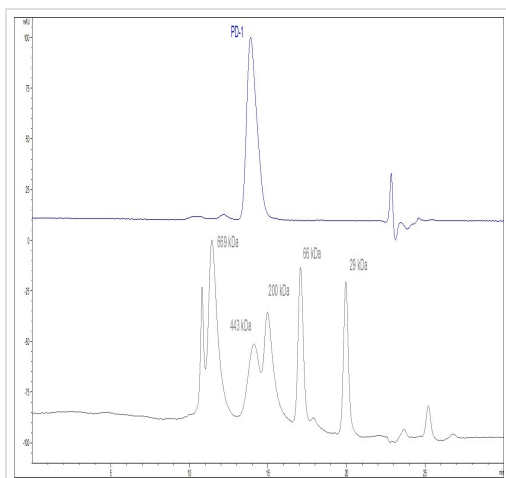
Membrane.

Images



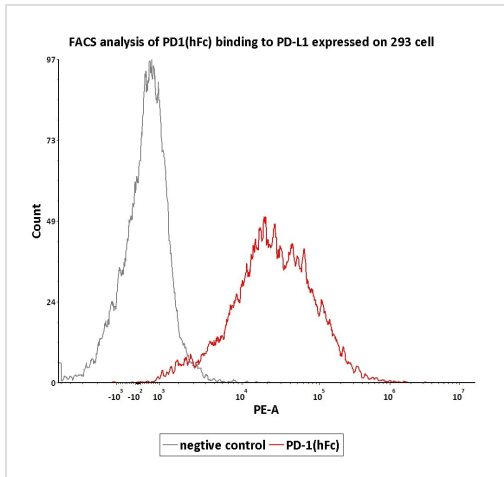
Human PD-1, Fc Tag, low endotoxin (HPLC-verified) captured on CM5 chip via anti-human IgG Fc antibody, can bind Human PD-L1, His Tag (HPLC-verified) with an affinity constant of 3.6 μ M as determined in a SPR assay (Biacore T200).

Functional Studies - Recombinant human PD1 protein (Fc Chimera Active) (ab221398)



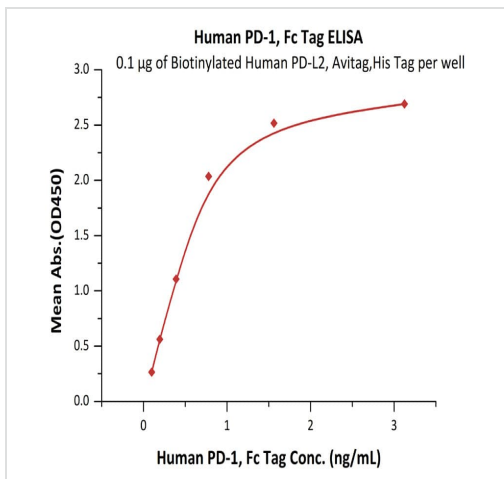
The purity of Human PD-1, Fc Tag, low endotoxin (HPLC-verified) was greater than 90% as determined by SEC-HPLC.

Functional Studies - Recombinant human PD1 protein (Fc Chimera Active) (ab221398)



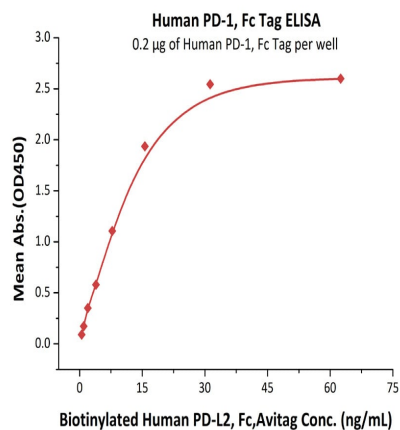
Flow Cytometry assay shows that Human PD-1, Fc Tag, low endotoxin (HPLC-verified) can bind to 293 cell overexpressing human PD-L1. The concentration of PD-1 used is 1 $\mu\text{g/mL}$.

Functional Studies - Recombinant human PD1 protein (Fc Chimera Active) (ab221398)



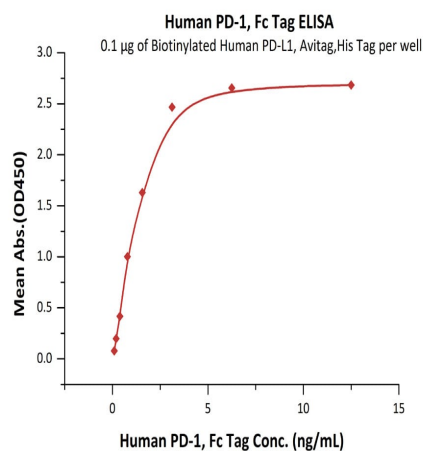
Immobilized Biotinylated Human PD-L2, Avitag, His Tag (recommended for biopanning) at 1 $\mu\text{g/mL}$ (100 $\mu\text{L/well}$) on streptavidin precoated (0.2 $\mu\text{g/well}$) plate, can bind Human PD-1, Fc Tag, low endotoxin (HPLC-verified) with a linear range of 0.1-1 ng/mL.

Functional Studies - Recombinant human PD1 protein (Fc Chimera Active) (ab221398)



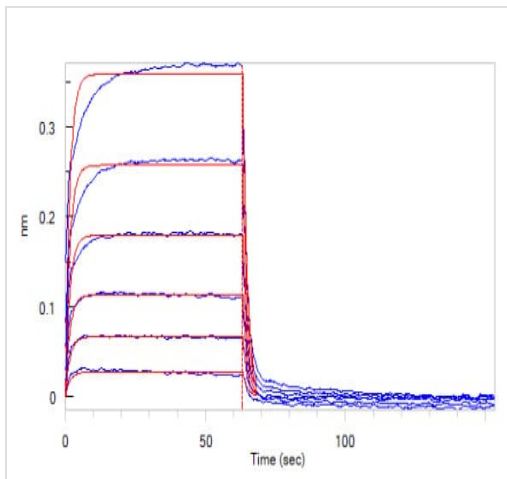
Functional Studies - Recombinant human PD1
protein (Fc Chimera Active) (ab221398)

Immobilized Human PD-1, Fc Tag, low endotoxin (HPLC-verified) at 2 µg/mL (100 µL/well) can bind Biotinylated Human PD-L2, Fc,Avitag with a linear range of 0.5-16 ng/mL.



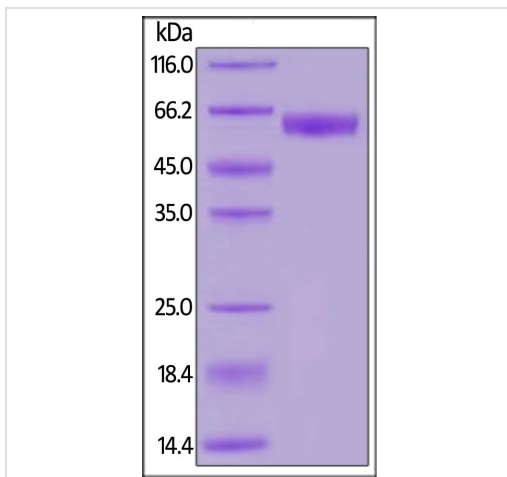
Functional Studies - Recombinant human PD1
protein (Fc Chimera Active) (ab221398)

Immobilized Biotinylated Human PD-L1, Avitag,His Tag (recommended for biopanning) at 1 µg/mL (100 µL/well) on streptavidin precoated (0.5 µg/well) plate, can bind Human PD-1, Fc Tag, low endotoxin with a linear range of 0.1-3 ng/mL (QC tested).



Functional Studies - Recombinant human PD1 protein (Fc Chimera Active) (ab221398)

Loaded Human PD-1, Fc Tag, low endotoxin (HPLC-verified) on Protein A Biosensor, can bind Human PD-L1, His Tag (HPLC & BLI verified) with an affinity constant of 5.3 μ M as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



SDS-PAGE - Recombinant human PD1 protein (Fc Chimera Active) (ab221398)

SDS-PAGE using ab221398 under reducing (R) condition. The gel was stained overnight with Coomassie Blue.

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