

ARG70239

Human CD279 / PD-1 recombinant protein (ECD) (Fc-His-tagged, C-ter)

Package: 100 µg

Store at: -20°C

Summary

Product Description	HEK293 expressed, Fc-His-tagged (C-ter) Human CD279 / PD-1 recombinant protein (ECD).
Tested Reactivity	Hu
Tested Application	Binding, SDS-PAGE
Target Name	CD279 / PD-1 (ECD)
Species	Human
A.A. Sequence	Leu25 - Thr168 of Human CD279 / PD-1 (NP_005009.2) with an Fc-6X His tag at the C-terminus.
Expression System	HEK293
Alternate Names	hPD-1; CD279; PD-1; Protein PD-1; CD antigen CD279; PD1; hSLE1; SLEB2; Programmed cell death protein 1; hPD-1

Application Instructions

Application Note	Binding activity test: Measured by its binding ability in a functional ELISA. Immobilized Recombinant Human PD-1 at 5µg/ml (100µl/well) can bind Recombinant Human PD-L1 with a linear range of 0.3-1.3 µg/ml.
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Properties

Form	Powder
Purification Note	0.22 µm filter sterilized. Endotoxin level is 97% (by SDS-PAGE)
Buffer	PBS (pH 7.4)
Reconstitution	Reconstitute to a concentration of 0.1 - 0.5 mg/ml in sterile distilled water.
Storage instruction	For long term, lyophilized protein should be stored at -20°C or -80°C. After reconstitution, aliquot and store at -20°C for up to one month, at 2-8°C for up to one week. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	PDCD1
Gene Full Name	programmed cell death 1
Background	This gene encodes a cell surface membrane protein of the immunoglobulin superfamily. This protein is expressed in pro-B-cells and is thought to play a role in their differentiation. In mice, expression of this gene is induced in the thymus when anti-CD3 antibodies are injected and large numbers of thymocytes undergo apoptosis. Mice deficient for this gene bred on a BALB/c background developed dilated cardiomyopathy and died from congestive heart failure. These studies suggest that this gene product may also be important in T cell function and contribute to the prevention of autoimmune diseases.

[provided by RefSeq, Jul 2008]

Function

Inhibitory receptor on antigen activated T-cells that plays a critical role in induction and maintenance of immune tolerance to self (PubMed:21276005). Delivers inhibitory signals upon binding to ligands CD274/PDCD1L1 and CD273/PDCD1LG2 (PubMed:21276005). Following T-cell receptor (TCR) engagement, PDCD1 associates with CD3-TCR in the immunological synapse and directly inhibits T-cell activation (By similarity). Suppresses T-cell activation through the recruitment of PTPN11/SHP-2: following ligand-binding, PDCD1 is phosphorylated within the ITSM motif, leading to the recruitment of the protein tyrosine phosphatase PTPN11/SHP-2 that mediates dephosphorylation of key TCR proximal signaling molecules, such as ZAP70, PRKCQ/PKCtheta and CD247/CD3zeta (By similarity).

The PDCD1-mediated inhibitory pathway is exploited by tumors to attenuate anti-tumor immunity and escape destruction by the immune system, thereby facilitating tumor survival (PubMed:28951311). The interaction with CD274/PDCD1L1 inhibits cytotoxic T lymphocytes (CTLs) effector function (PubMed:28951311). The blockage of the PDCD1-mediated pathway results in the reversal of the exhausted T-cell phenotype and the normalization of the anti-tumor response, providing a rationale for cancer immunotherapy (PubMed:22658127, PubMed:25034862, PubMed:25399552). [UniProt]

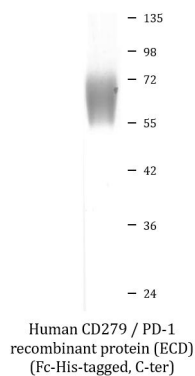
Calculated Mw

32 kDa

Cellular Localization

Membrane; Single-pass type I membrane protein. [UniProt]

Images



ARG70239 Human CD279 / PD-1 recombinant protein (ECD) (Fc-His-tagged, C-ter) SDS-PAGE image

SDS-PAGE analysis of ARG70239 Human CD279 / PD-1 recombinant protein (ECD) (Fc-His-tagged, C-ter).