ARG66243
anti-CD279 / PD-1 antibody [SQab1732]

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Recombinant Rabbit Monoclonal antibody [SQab1732] recognizes CD279 / PD-1
Tested Reactivity	Hu
Tested Application	FACS, ICC/IF, IHC-P, IP
Host	Rabbit
Clonality	Monoclonal
Clone	SQab1732
Isotype	IgG
Target Name	CD279 / PD-1
Species	Human
Immunogen	Recombinant full length protein of Human PD-1. The immunogen contains the specific extracellular domain of Human PD-1 (Leu25 - Gln167).
Conjugation	Un-conjugated
Alternate Names	hPD-l; CD279; PD-1; Protein PD-1; CD antigen CD279; PD1; hSLE1; SLEB2; Programmed cell death protein 1; hPD-1

Application Instructions

Application table

Application	Dilution
FACS	1:50 - 1:200
ICC/IF	1:2000 - 1:10000
IHC-P	1:100 - 1:200
IP	1:50

Application Note

IHC-P: Antigen Retrieval: Boil tissue section in Tris/EDTA buffer (pH 9.0).
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

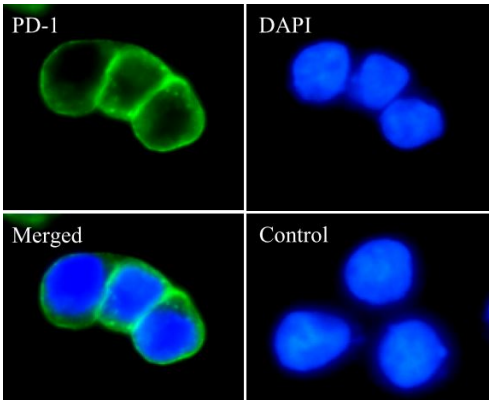
Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS, 0.01% Sodium azide, 40% Glycerol and 0.05% BSA.
Preservative	0.01% Sodium azide
Stabilizer	40% Glycerol and 0.05% BSA
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw

	cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

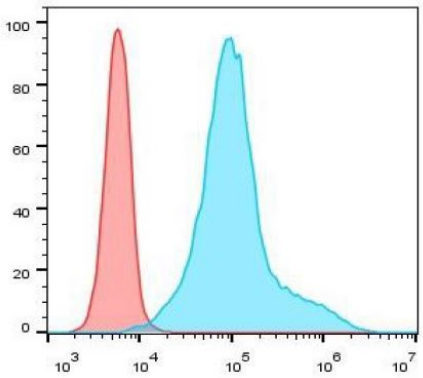
Gene Symbol	PDCD1
Gene Full Name	programmed cell death 1
Background	CD279 / PD-1 is a cell surface membrane protein of the immunoglobulin superfamily. This protein is expressed in pro-B-cells and is thought to play a role in their differentiation. In mice, expression of this gene is induced in the thymus 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	CD279 / PD-1 is an inhibitory receptor on antigen activated T-cells. It 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. 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. 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]
Highlight	Related products: PD-1 antibodies; PD-1 ELISA Kits; PD-1 Duos / Panels; Anti-Rabbit IgG secondary antibodies; Related news: Cancer Pathology Markers (SQ clones) The best solution for PD-1/PD-L1 research Examining CTL/NK-mediated cytotoxicity by ELISA
Calculated Mw	32 kDa

Images



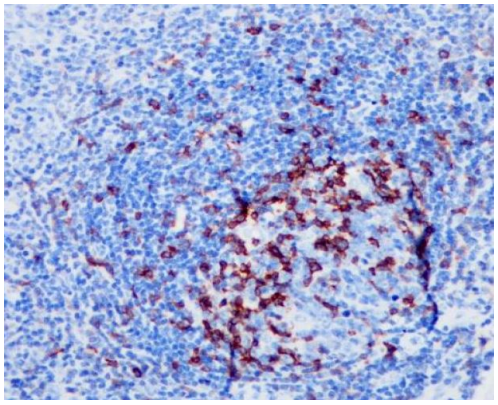
ARG66243 anti-CD279 / PD-1 antibody [SQab1732] ICC/IF image

Immunofluorescence: 293 cells transfected with PD-1 gene, fixed with 4% paraformaldehyde for 30 min at RT, permeabilized with 0.1% Triton X-100 for 10 min at RT then blocked with 10% Goat serum for half an hour at room temperature. Samples were stained with ARG66243 anti-CD279 / PD-1 antibody [SQab1732] (green) at 1:10000 and 4°C. DAPI (blue) was used as the nuclear counter stain. Control: PBS and secondary antibody.



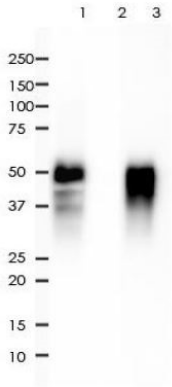
ARG66243 anti-CD279 / PD-1 antibody [SQab1732] FACS image

Flow Cytometry: 293 cells transfected with PD-1 gene. The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% TritonX-100 for 15 min. The cells were then stained with ARG66243 anti-CD279 / PD-1 antibody [SQab1732] (blue) at 1:200 dilution in 1x PBS/1% BSA for 30 min at room temperature, followed by Alexa Fluor® 488 labelled secondary antibody. Unlabelled sample (red) was used as a control.



ARG66243 anti-CD279 / PD-1 antibody [SQab1732] IHC-P image

Immunohistochemistry: Formalin-fixed and paraffin-embedded Human lung tonsil tissue stained with ARG66243 anti-CD279 / PD-1 antibody [SQab1732] at 1:200. Antigen Retrieval: Boil tissue section in Tris/EDTA buffer (pH 9.0).



ARG66243 anti-CD279 / PD-1 antibody [SQab1732] IP image

Immunoprecipitation: 0.2 mg of 293 whole cell lysate (transfected with PD-1 gene) was immunoprecipitated (1:50 dilution) by ARG66243 anti-CD279 / PD-1 antibody [SQab1732] and then stained with anti-CD279 / PD-1 antibody.

Lane 1: Immunoprecipitation in 293 whole cell lysate (transfected with PD-1 gene)
Lane 2: PBS instead of Primary Ab in 293 whole cell lysate (transfected with PD-1 gene)
Lane 3: 293 whole cell lysate (transfected with PD-1 gene), 2 µg (input)