# ARG57575
# anti-CD279 / PD-1 antibody [EH12.2H7] (low endotoxin)

Package: 100 µg
Store at: -20°C

## Summary

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| Product Description | Azide free and low endotoxin Mouse Monoclonal antibody [EH12.2H7] recognizes CD279 / PD-1 |
| Tested Reactivity | Hu, NHuPrm |
| Tested Application | CyTOF®-candidate, FACS, FuncSt, IHC-Fr |
| Specificity | The antibody recognizes CD279 / PD-1 (programmed cell death 1), a 55 kDa type I transmembrane protein expressed above all during T cell development, on activated T cells, activated B cells, and activated monocytes. |
| Host | Mouse |
| Clonality | Monoclonal |
| Clone | EH12.2H7 |
| Isotype | IgG1 |
| Target Name | CD279 / PD-1 |
| Species | Human |
| 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 |
|---|---|
| CyTOF®-candidate | Assay-dependent |
| FACS | 1 - 4 µg/ml |
| FuncSt | Assay-dependent |
| IHC-Fr | Assay-dependent |

Application Note: Functional study: The clone EH12.2H7 could be used to block the ligand binding. * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

## Properties

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| Form | Liquid |
| Purification | Purification with Protein A. |
| Purification Note | 0.2 µm filter sterilized. Endotoxin level is less than 0.01 EU/µg of the protein, as determined by the LAL test. |
| Purity | > 95% (by SDS-PAGE) |
| Buffer | PBS (pH 7.4) |

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| Concentration | 1 mg/ml |
| 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 or below. 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

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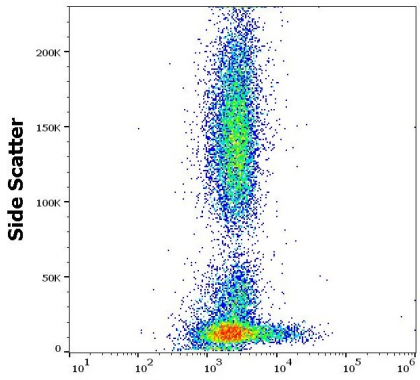
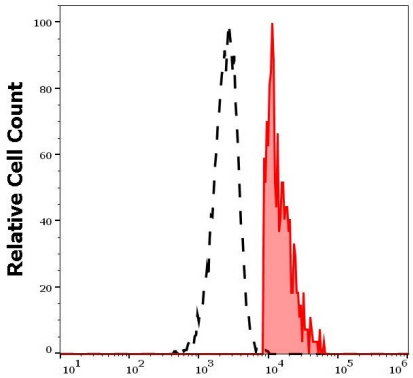
| Gene Symbol | PDCD1 |
| Gene Full Name | PDCD1 |
| Background | CD279 / PD-1 is a cell surface membrane protein of the immunoglobulin superfamily. This protein is expressed in pro-B-cells and is thought to play a role in their differentiation. In mice, expression of this gene is induced in the thymus 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.<br><br>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:<br>PD-1 antibodies; PD-1 ELISA Kits; PD-1 Duos / Panels; Anti-Mouse IgG secondary antibodies;<br>Related news:<br>CyTOF-candidate Antibodies<br>The best solution for PD-1/PD-L1 research<br>Examining CTL/NK-mediated cytotoxicity by ELISA |
| Calculated Mw | 32 kDa |
| Cellular Localization | Membrane |

## Images




ARG57575 anti-CD279 / PD-1 antibody [EH12.2H7] (low endotoxin) FACS image

Flow Cytometry: Human peripheral blood stained with ARG57575 anti-CD279 / PD-1 antibody [EH12.2H7] (low endotoxin) at 6 µg/ml dilution, followed by APC-conjugated Goat anti-Mouse antibody.




ARG57575 anti-CD279 / PD-1 antibody [EH12.2H7] (low endotoxin) FACS image

Flow Cytometry: Separation of human CD279 positive lymphocytes (red-filled) from neutrophil granulocytes (black-dashed). Human peripheral whole blood stained with ARG57575 anti-CD279 / PD-1 antibody [EH12.2H7] (low endotoxin) at 6 µg/ml dilution, followed by APC-conjugated Goat anti-Mouse antibody.