abcam

ab325222

Alexa Fluor® 647 Anti-PD-1/CD279 antibody [EPR26302-8]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26302-8
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	1/500
Notes	-

ICC/IF

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information PD-1/CD279

Function

Inhibitory receptor on antigen activated T-cells that plays a critical role in induction and maintenance of immune tolerance to self (PubMed:10485649, PubMed:11209085, PubMed:11698646, PubMed:21300912). Delivers inhibitory signals upon binding to ligands, such as CD274/PDCD1L1 and CD273/PDCD1LG2 (PubMed:11015443, PubMed:11224527, PubMed:18287011, PubMed:18641123, PubMed:22641383). Following T-cell receptor (TCR) engagement, PDCD1 associates with TCR-CD3 in the immunological synapse and directly inhibits T-cell activation (PubMed:22641383). 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 (PubMed:11698646, PubMed:22641383). The PDCD1-mediated inhibitory pathway is exploited by tumors to attenuate anti-tumor immunity and facilitate tumor survival (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PD1 also known as Programmed Cell Death Protein 1 or PDCD1 is a transmembrane protein that plays a critical role in regulating immune responses. It has a mass of approximately 55 kDa. PD1 is expressed on the surface of T cells B cells and some myeloid cells. PD1's expression increases upon activation of these immune cells assisting in maintaining peripheral tolerance. Researchers often use PD1 mouse models and chimeric antibodies to explore the function of PD1 for experimental purposes. Antibodies such as anti-PD1 such as EH12.2H7 help in blocking PD1 interaction to study its role further.
Biological function summary	PD1 serves as an inhibitory receptor acting as a checkpoint in the immune system. It becomes part of an immune-suppressive complex when it binds with its ligands PD-L1 or PD-L2 which are expressed on various cell types including some tumor

	cells. This interaction suppresses the proliferation of T cells and cytokine production contributing to immune homeostasis. By controlling T cell activity PD1 limits autoimmunity but can also reduce the immune system's capability to attack cancer cells.
Pathways	PD1 functions in the immune checkpoint pathway a critical regulatory circuit in immune regulation. The engagement of PD1 with its ligands initiates a cascade that inhibits the function and proliferation of T cells through downstream SHP-2 phosphatase activity. This pathway frequently involves other regulatory proteins like CTLA-4 and is an important mechanism by which the body modulates immune responses. Related pathways often intersect with those involving T cell receptor signaling and contribute to the overall modulation of immune activity.
Associated diseases and disorders	PD1 has a significant role in cancer and autoimmune disorders. PD1 expression can allow tumors to evade immune surveillance making PD1 a target for cancer therapies such as anti-PD1 antibodies which aim to block PD1 and restore T cell activity. The interaction of PD1 with cancer-related proteins like PD-L1 facilitates tumor immune evasion. In autoimmune disorders PD1's regulation of immune balance can become dysregulated leading to persistent immune activation and tissue damage. Understanding PD1 and its interaction with proteins such as PD-L1 helps in developing therapeutic strategies for both cancer and autoimmune conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

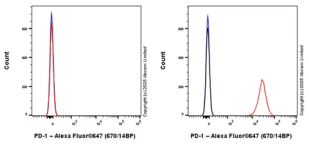
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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1 product image



Flow Cytometry - Alexa Fluor® 647 Anti-PD-1/CD279 antibody [EPR26302-8] (ab325222)

PD-1/CD279 Flow Cytometry staining using rabbit Anti-PD-1/CD279 antibody

Flow cytometric analysis of CTLL-2 (mouse T lymphocyte, Left) / EL4 (mouse lymphoma T lymphocyte, Right) cells labelling PD-1 with ab325222 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit IgG monoclonal [EPR25A] - Isotype Control (Alexa Fluor® 647) (ab199093) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Gated on viable cells.
Negative control: CTLL-2 (PMID: 1396582).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.