abcam

ab245909

PE Anti-ICOS/CD278 antibody [EPR22181]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22181
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	Human
Dilution info	1/500

Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200
Notes	-

Target data

See full target information ICOS/CD278

Function	Stimulatory receptor expressed in activated or antigen-experienced T-cells that plays an important role in the immune response (PubMed:9930702). Upon binding to its ligand ICOSL expressed on antigen presenting cells (APCs), delivers costimulatory signals that enhances all basic T-cell responses to a foreign antigen, namely proliferation, secretion of lymphokines including IL10, up-regulation of molecules that mediate cell-cell interaction, and effective help for antibody secretion by B-cells (PubMed:33033255). Also acts as a costimulatory receptor critical for the differentiation of T follicular regulatory cells upon immune challenges such as viral infection (PubMed:27135603). Mechanistically, potentiates TCR-induced calcium flux by augmenting PLCG1 activation and actin remodeling (By similarity). In addition, activates PI3K signaling pathways independently of calcium flux (PubMed:30523347). Essential both for efficient interaction between T and B-cells and for normal antibody responses to T-cell dependent antigens. Prevents the apoptosis of pre-activated T-cells. Plays a critical role in CD40-mediated class switching of immunoglobin isotypes (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	+4°C
Aliquoting information	Upon delivery aliquot

Storage information	Do Not Freeze, 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.

Supplementary info

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

Activity summary	Inducible T-cell costimulator (ICOS) also known as AILIM or CD278 is a member of the CD28 superfamily of proteins. ICOS is a surface receptor protein approximately 60 kDa in mass. This protein is expressed mainly on activated T cells. It does not appear on naive or resting T cells. ICOS plays an important mechanical role in the immune response as its engagement enhances the production of cytokines and supports cell-cell interactions through its binding to the ICOS ligand.
Biological function summary	ICOS plays a critical role in the regulation of immune responses. It acts as a costimulatory signal for T cells supporting their proliferation and differentiation. ICOS helps form part of a complex involving interactions with the ICOS ligand present on antigen-presenting cells. This interaction affects the function and fate of various T cell subsets including T follicular helper cells which are important for antibody production.
Pathways	ICOS is part of the immune signaling pathway. It associates closely with the CD28 signaling pathway enhancing T-cell activation and survival. ICOS interacts with proteins such as the ICOS ligand (ICOSL) on antigen-presenting cells which helps mediate its effects. These pathways are essential in immune system homeostasis and adaptive immune responses where dysfunction can lead to immune-related diseases.
Associated diseases and disorders	ICOS has implications in conditions such as autoimmune diseases and cancer. Abnormal expression or function of ICOS relates to the development of autoimmune conditions like systemic lupus erythematosus (SLE) where the overactive immune response damages the body's tissues. Additionally ICOS might support tumor progression in certain types of cancers by promoting immune escape. It interacts with regulatory proteins like CTLA-4 and PD-1 in these diseases which are notably involved in immune checkpoint pathways.

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

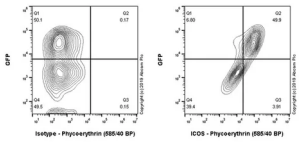
We do not recommend this combination. It is not covered by our product promise.

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:
Terms & Conditions.

2 product images

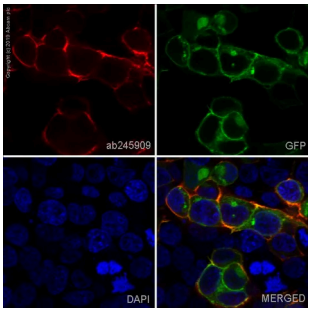


Flow Cytometry - PE Anti-ICOS/CD278 antibody [EPR22181] (ab245909)

ICOS/CD278 Flow Cytometry staining using rabbit Anti-ICOS/CD278 antibody

Flow cytometric analysis of 293T transfected with GFP-tagged ICOS overexpression vector using ab209478 Rabbit IgG, monoclonal [EPR25A] - Isotype Control (Phycoerythrin) (Left panel) and ab245909 at 1/500 dilution (Right panel).
Blocking: 10% Goat serum.

Gated on viable cells.



Immunocytochemistry/ Immunofluorescence - PE Anti-ICOS/CD278 antibody [EPR22181] (ab245909)

ICOS/CD278 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ICOS/CD278 antibody

Immunocytochemistry/ Immunofluorescence analysis of 4% PFA-fixed, 0.1% Triton X-100-permeabilized 293T (human embryonic kidney epithelial cell) cells using ab245908 at 1/200 dilution (2.5 µg/ml) (red). Counterstain: DAPI (blue).
Confocal image showing increased cytoplasmic staining in 293T cells transfected with ICOS with GFP tag.

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