abcam

ab325108

Alexa Fluor® 647 Anti-CD69 antibody [EPR25398-81]

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	EPR25398-81
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

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Species	Mouse
Dilution info	1/50
Notes	-

Expected

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

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Expected

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

Target data

See full target information CD69

Function	Transmembrane protein expressed mainly on T-cells resident in mucosa that plays an essential role in immune cell homeostasis. Rapidly expressed on the surface of platelets, T-lymphocytes and NK cells upon activation by various stimuli, such as antigen recognition or cytokine signaling, stimulates different signaling pathways in different cell types (PubMed:24752896, PubMed:26296369, PubMed:35930205). Negatively regulates Th17 cell differentiation through its carbohydrate dependent interaction with galectin-1/LGALS1 present on immature dendritic cells (PubMed:24752896). Association of CD69 cytoplasmic tail with the JAK3/STAT5 signaling pathway regulates the transcription of RORgamma/RORC and, consequently, differentiation toward the Th17 lineage (By similarity). Also acts via the S100A8/S100A9 complex present on peripheral blood mononuclear cells to promote the conversion of naive CD4 T-cells into regulatory T-cells (PubMed:26296369). Acts as an oxidized low-density lipoprotein (oxLDL) receptor in CD4 T-lymphocytes and negatively regulates the inflammatory response by inducing the expression of PDCD1 through the activation of NFAT (PubMed:35930205). Participates in adipose tissue-derived mesenchymal stem cells (ASCs)-mediated protection against P.aeruginosa infection. Mechanistically, specifically recognizes P.aeruginosa to promote ERK1 activation, followed by granulocyte-macrophage colony-stimulating factor (GM-CSF) and other inflammatory cytokines secretion (PubMed:34841721). In eosinophils, induces IL-10 production through the ERK1/2 pathway (By similarity). Negatively regulates the chemotactic responses of effector lymphocytes and dendritic cells (DCs) to sphingosine 1 phosphate/S1P by acting as a S1PR1 receptor agonist and facilitating the internalization and degradation of the receptor (PubMed:37039481).

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	CD69 also known as Activation-Induced C-type Lectin or Early T-cell Activation Antigen is a type II transmembrane protein with a mass of approximately 28-32 kDa. It is expressed mainly on activated leukocytes including T cells B cells and natural killer (NK) cells. Expression occurs rapidly after cell activation making CD69 a robust early marker used in flow cytometry analysis like with CD69 FITC or CD69 PE conjugates to study immune cell activation. The mouse version of CD69 serves as an important model for understanding its function in human biology.
Biological function summary	CD69 functions as a signaling molecule during the immune response influencing both cell proliferation and cytokine production. It is a member of the C-type lectin superfamily and operates as a homodimer on the cell surface. CD69 helps modulate the migration of T cells to inflammatory sites by affecting sphingosine-1-phosphate receptor 1 (S1P1) downregulation directing their tissue retention and primary response roles.
Pathways	The protein plays an important role in the regulation of the NF-kB and JAK-STAT signaling pathways. These are important for immune cell communication and response and CD69 interacts with proteins like the IL-2 receptor complex in these pathways. Additionally its cross-linking can lead to altered expression of cytokines and chemokines impacting overall immune function.
Associated diseases and disorders	Altered CD69 expression links to conditions like autoimmune diseases and chronic inflammation. Its involvement in rheumatoid arthritis shows how CD69 may regulate abnormal immune responses. Furthermore the modulation of CD69 expression can be associated with cancer progression highlighting connections to

proteins like FN50 and FN61 which participate in tumor immunity and metastasis control.

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

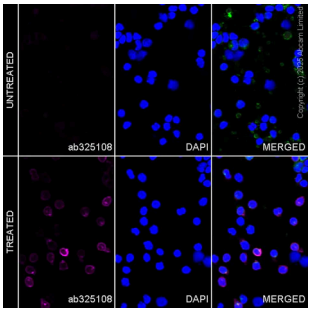
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images



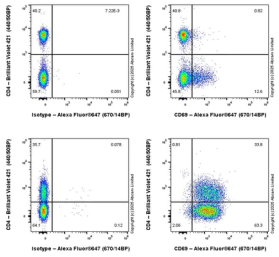
Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-CD69 antibody [EPR25398-81] (ab325108)

CD69 Immunocytochemistry/ Immunofluorescence staining of Human PBMC (human primary peripheral blood mononuclear cell) using rabbit Anti-CD69 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human PBMC (human primary peripheral blood mononuclear cell) cells labelling CD69 with ab325108 at 1/50 (10.0 ug/ml) dilution (Magenta).

Confocal image showing weak cytoplasmic staining in subset of human PBMCs, the expression increased after treatment with ionomycin (500 ng/ml) and PMA (10 ng/ml) for 3 hours.
The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195887 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 488) was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Green). The Nuclear counterstain was DAPI (Blue).

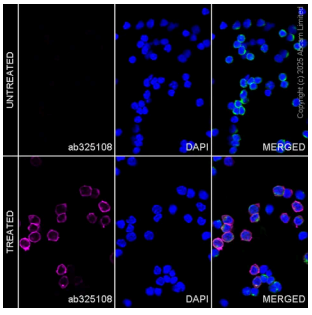


Flow Cytometry - Alexa Fluor® 647 Anti-CD69 antibody [EPR25398-81] (ab325108)

CD69 Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) treated with 500ng/ml ionomycin and 10ng/ml PMA for 3 hours (Lower left and right) / Untreated control (Upper left and right) using rabbit Anti-CD69 antibody

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) treated with 500ng/ml ionomycin and 10ng/ml PMA for 3 hours (Lower left and right) / Untreated control (Upper left and right) cells labelling CD69 with ab325108 at 1/500 dilution (0.1ug) / Upper right and Lower right compared with a Rabbit IgG monoclonal [EPR25A] - Isotype Control (Alexa Fluor® 647) (ab199093) / Left isotype control.

Cells were stained with anti-CD4 conjugated to Brilliant Violet 421.
Gated on viable lymphoid Cells.



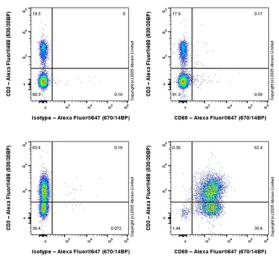
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Flow Cytometry - Alexa Fluor® 647 Anti-CD69 antibody [EPR25398-81] (ab325108)

CD69 Flow Cytometry staining of Mouse PBMC (mouse peripheral blood mononuclear cell) treated with 500ng/ml ionomycin and 10ng/ml PMA for 24 hours (Lower left and right) / Untreated control (Upper left and right) using rabbit Anti-CD69 antibody

Flow cytometric analysis of Mouse PBMC (mouse peripheral blood mononuclear cell) treated with 500ng/ml ionomycin and 10ng/ml PMA for 24 hours (Lower left and right) / Untreated control (Upper left and right) cells labelling CD69 with ab325108 at 1/500 dilution (0.1ug) / Upper right and Lower right compared with a Rabbit IgG monoclonal [EPR25A] - Isotype Control (Alexa Fluor® 647) (ab199093) / Left isotype control.

Cells were stained with anti-CD3 conjugated to Alexa Fluor® 647.
Gated on viable cells.

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