abcam

ab25008

Biotin Anti-CD69 antibody [H1.2F3]

Anti-CD69 antibody [H1.2F3] conjugated to Biotin - suitable for flow cytometry, IHC-Fr, IP, and reacts with mouse samples. Clone [H1.2F3] is a Armenian Hamster monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Key facts

Isotype	IgG
Host species	Armenian hamster
Conjugation	Biotin
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing Cd69 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P37217
Clone number	H1.2F3
Purification technique	Affinity purification
Light chain type	lambda
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Expected

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

Flow Cyt

Expected

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

IHC-Fr

Expected

Species	Mouse
Dilution info	-
Notes	Acetone fixed tissues.

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:20696842, PubMed:38540778). Negatively regulates Th17 cell differentiation through its carbohydrate dependent interaction with galectin-1/LGALS1 present on immature dendritic cells (By similarity). Association of CD69 cytoplasmic tail with the JAK3/STAT5 signaling pathway regulates the transcription of RORgamma/RORC and, consequently, differentiation toward the Th17 lineage (PubMed:20696842). 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. 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. 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 (By similarity). In eosinophils, induces IL-10 production through the ERK1/2 pathway

(PubMed:38540778). 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:16525420).

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

Notes

ab25008 augments PMA-induced T-cell proliferation and induces redirected lysis of Fc receptor-bearing target cells by NK cells.

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.

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