abcam

ab24871

FITC Anti-LAMP1/CD107a antibody [1D4B] - Lysosome Marker

Anti-LAMP1/CD107a antibody [1D4B] conjugated to FITC - suitable for flow cytometry and reacts with mouse samples. Clone [1D4B] is a rat monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing Lamp1 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P11438
Clone number	1D4B
Purification technique	Affinity purification
Specificity	This antibody is specific to murine CD107a/LAMP1 (Mr 110-140 kDa with a core protein of Mr ~40 kDa).
Light chain type	kappa
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 µg for 10^6 Cells
Notes	ab18446 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target data

See full target information LAMP1/CD107a

Function	Lysosomal membrane glycoprotein which plays an important role in lysosome biogenesis, lysosomal pH regulation, autophagy and cholesterol homeostasis (PubMed:15121881). Acts as an important regulator of lysosomal lumen pH regulation by acting as a direct inhibitor of the proton channel TMEM175, facilitating lysosomal acidification for optimal hydrolase activity (By similarity). Also plays an important role in NK-cells cytotoxicity (PubMed:23847195). Mechanistically, participates in cytotoxic granule movement to the cell surface and perforin trafficking to the lytic granule (By similarity). In addition, protects NK-cells from degranulation-associated damage induced by their own cytotoxic granule content (PubMed:23847195). Presents carbohydrate ligands to selectins (By similarity). Also implicated in tumor cell metastasis (PubMed:2676155).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Supplementary info

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

Activity summary	LAMP1 also known as lysosome-associated membrane glycoprotein 1 is an important player within cellular mechanics. It exhibits a molecular weight of approximately 120 kDa. This protein exists abundantly in lysosomal membranes and sometimes in endosomes. LAMP1 operates near most cell types and has a significant presence in immune neuronal and epithelial cells. By maintaining the lysosomal membrane's integrity LAMP1 contributes to cellular homeostasis.
Biological function summary	LAMP1 functions to protect lysosomal membranes from the harsh environment inside the lysosome. It forms part of a protective glycocalyx composed of highly glycosylated proteins supporting lysosomal stability. This protein interacts closely with other lysosome markers and assists in the fusion of vesicles with lysosomes making it fundamental to lysosomal processes. As a lysosome marker LAMP1 helps identify lysosomal compartments during studies involving microscopy and LAMP1 staining.
Pathways	The protein LAMP1 participates in the autophagy and endocytic pathways. It acts collaboratively within the lysosomal degradation route involving proteins like LAMP2 which also supports lysosomal function. LAMP1 influences these pathways by mediating the fusion of autophagosomes or endosomes with lysosomes thereby ensuring efficient breakdown of cellular debris and macromolecules.
Associated diseases and disorders	LAMP1 associates with lysosomal storage disorders and neurodegenerative diseases. The abnormal function or expression of LAMP1 has been linked to conditions such as Niemann-Pick disease and Alzheimer's disease. In these contexts its interaction with proteins like APP (amyloid precursor protein) illustrates its involvement in pathogenic pathways that lead to cellular dysfunction and disease progression. Understanding LAMP1's role may enhance diagnostic and therapeutic approaches pertaining to these disorders.

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

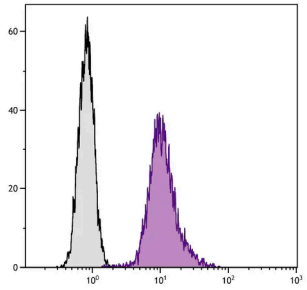
We do not recommend this combination. It is not covered by our product promise.

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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Terms & Conditions.

1 product image



Flow Cytometry (Intracellular) - FITC Anti-LAMP1/CD107a antibody [1D4B] - Lysosome Marker (ab24871)

LAMP1/CD107a Flow Cytometry (Intracellular) staining of Mouse MΦ cells using rat Anti-LAMP1/CD107a antibody

Mouse MΦ cells were intracellularly stained with Rat Anti- Mouse CD107a-FITC (ab24871). The grey peak represents an isotype control. The purple peak represents the positive dataset.

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