Human LAMP-2/CD107b Antibody

Monoclonal Mouse IgG_1 Clone # 743320

Catalog Number: MAB6228

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human LAMP2/CD107b in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human LAMP1 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 743320
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human LAMP2/CD107b Leu29-Phe375 Accession # P13473
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

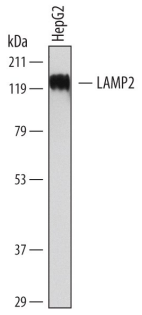
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below

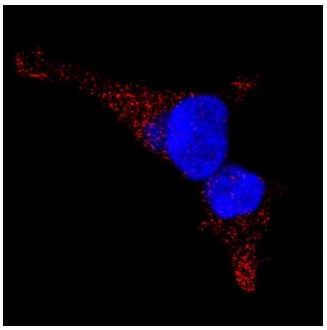
DATA

Western Blot



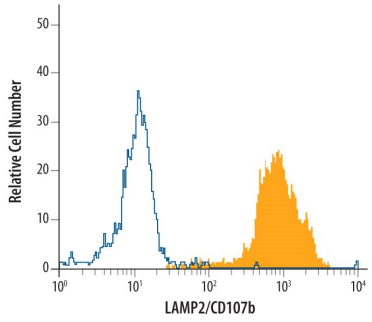
Detection of Human LAMP2/CD107b by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human LAMP2/CD107b Monoclonal Antibody (Catalog # MAB6228) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for LAMP2/CD107b at approximately 120 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



LAMP2/CD107b in HEK293 Human Cell Line. LAMP2/CD107b was detected in immersion fixed HEK293 human embryonic kidney cell line using Mouse Anti-Human LAMP2/CD107b Monoclonal Antibody (Catalog # MAB6228) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to lysosomes. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Intracellular Staining by Flow Cytometry



Detection of LAMP2/CD107b in HeLa Human Cell Line by Flow Cytometry. HeLa human cervical epithelial carcinoma cell line was stained with Mouse Anti-Human LAMP2/CD107b Monoclonal Antibody (Catalog # MAB6228, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Lysosomal associated membrane protein 2 (LAMP2), also known as CD107b and LGP110, is an approximately 110 kDa transmembrane glycoprotein that is a major component of lysosomal membranes (1). Mature human LAMP2 consists of a 347 amino acid (aa) intralumenal domain, a 24 aa transmembrane segment, and a 35 aa cytoplasmic tail (2). Its lumenal domain is organized into two heavily N-glycosylated regions separated by a Ser/Pro-rich linker that carries a minor amount of O-linked glycosylation (2, 3). Alternate splicing generates a human LAMP2 isoform (LAMP2B) with a substituted juxtamembrane lumenal region, transmembrane segment, and cytoplasmic tail (4). Within the lumenal domain, human LAMP2 shares approximately 64% aa sequence identity with mouse and rat LAMP2. LAMP2 itself is subject to lysosomal degradation following cleavage of its lumenal domain (5). It mediates the lysosomal uptake of the chaperone HSC73 in complex with cargo proteins and is required for the lysosomal destruction of autophagic vacuoles (6, 7). In cytotoxic T cells and mast cells, LAMP2 is expressed in the membranes of intracellular granules that contain effector molecules such as perforin, granzymes, eicosanoids, and histamine (8-10). Up-regulated LAMP2 at the plasma membrane serves as an indicator of cell activation of $CD8^+$ T cells, mast cells, monocytes, and platelets (9-12). LAMP2 is a native ligand for lectins Galectin-1 and Galectin-3 (13-15).

References:

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