abcam

ab320851

Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1217
Purification technique	Affinity purification Protein A
Concentration	0.503 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500

Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Species	Mouse
Dilution info	1/100
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30

Notes	-

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

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:37390818). 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 (PubMed:37390818). Also plays an important role in NK-cells cytotoxicity (PubMed:2022921, PubMed:23632890). Mechanistically, participates in cytotoxic granule movement to the cell surface and perforin trafficking to the lytic granule (PubMed:23632890). In addition, protects NK-cells from degranulation-associated damage induced by their own cytotoxic granule content (PubMed:23847195). Presents carbohydrate ligands to selectins (PubMed:7685349). (Microbial infection) Acts as a receptor for Lassa virus glycoprotein (PubMed:24970085, PubMed:25972533, PubMed:27605678, PubMed:28448640). Also promotes fusion of the virus with host membrane in less acidic endosomes (PubMed:29295909). (Microbial infection) Supports the FURIN-mediated cleavage of mumps virus fusion protein F by interacting with both FURIN and the unprocessed form but not the processed form of the viral protein F.

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

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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.

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

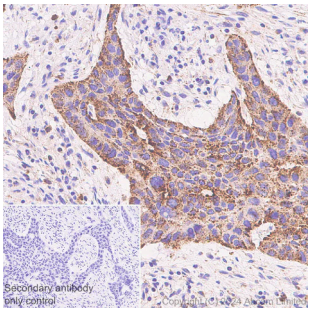
We do not recommend this combination. It is not covered by our product promise.

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.

Full details and terms and conditions can be found here:
Terms & Conditions.

14 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human lung carcinoma using rabbit Anti-LAMP1/CD107a antibody

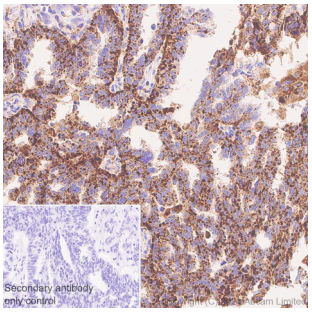
Immunohistochemical analysis of paraffin-embedded Human lung carcinoma tissue labeling LAMP1 with ab320851 at 1/2000 (0.246 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human lung carcinoma. The section was incubated with ab320851 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human ovarian carcinoma using rabbit Anti-LAMP1/CD107a antibody

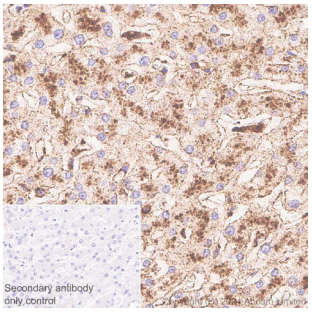
Immunohistochemical analysis of paraffin-embedded Human ovarian carcinoma tissue labeling LAMP1 with ab320851 at 1/2000 (0.246 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human ovarian cancinoma. The section was incubated with ab320851 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human liver using rabbit Anti-LAMP1/CD107a antibody

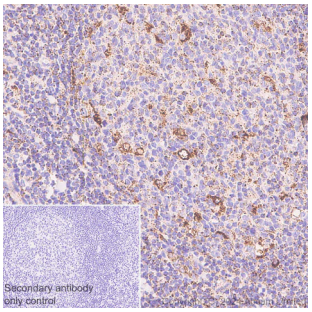
Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling LAMP1 with ab320851 at 1/2000 (0.246 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human liver. The section was incubated with ab320851 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human tonsil using rabbit Anti-LAMP1/CD107a antibody

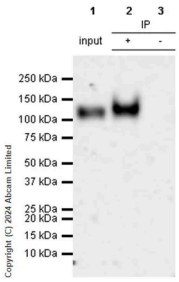
Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling LAMP1 with ab320851 at 1/2000 (0.246 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human tonsil. The section was incubated with ab320851 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1 was immunoprecipitated from 0.35 mg HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate with ab320851 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab320851 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate
Lane 2: ab320851 IP in HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab320851 in HepG2 whole cell lysate

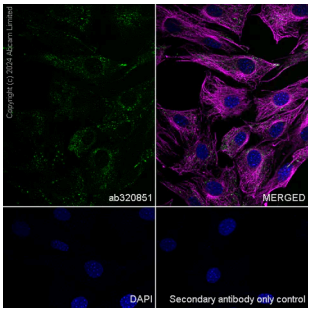
Blocking and dilution buffer and concentration: 5% NFDM/TBST

All lanes:
Immunoprecipitation - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851) at 1/30 dilution

All lanes:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution



Immunocytochemistry/ Immunofluorescence - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

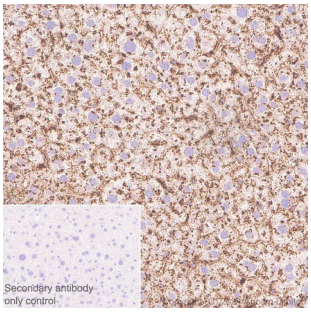
LAMP1/CD107a Immunocytochemistry/ Immunofluorescence staining of NIH/3T3 (mouse embryonic fibroblast) using rabbit Anti-LAMP1/CD107a antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling LAMP1 with ab320851 at 1/100 (4.91 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in NIH/3T3 cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5 ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse liver using rabbit Anti-LAMP1/CD107a antibody

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling LAMP1 with ab320851 at 1/500 (0.982 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

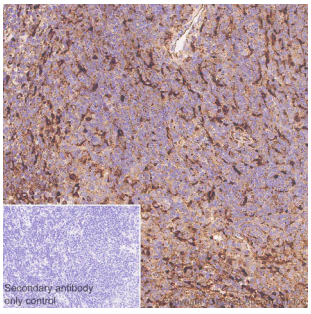
Positive staining on mouse liver. The section was incubated with ab320851 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse spleen using rabbit Anti-LAMP1/CD107a antibody

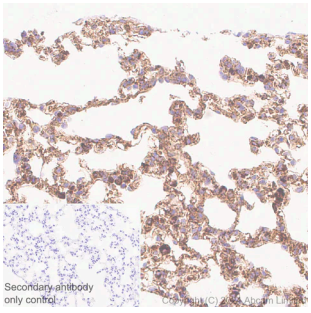
Immunohistochemical analysis of paraffin-embedded Mouse spleen tissue labeling LAMP1 with ab320851 at 1/500 (0.982 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse spleen. The section was incubated with ab320851 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse lung using rabbit Anti-LAMP1/CD107a antibody

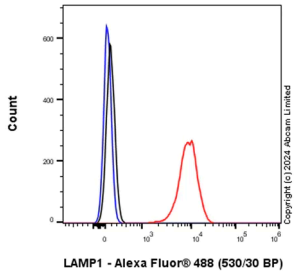
Immunohistochemical analysis of paraffin-embedded Mouse lung tissue labeling LAMP1 with ab320851 at 1/500 (0.982 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse lung. The section was incubated with ab320851 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

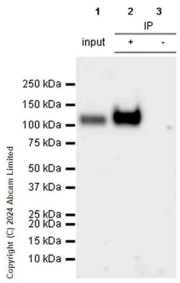


Flow Cytometry (Intracellular) - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Flow Cytometry (Intracellular) staining of NIH/3T3 (mouse embryonic fibroblast) using rabbit Anti-LAMP1/CD107a antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling LAMP1 with ab320851 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1 was immunoprecipitated from 0.35 mg NIH/3T3 (mouse embryonic fibroblast) whole cell lysate with ab320851 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab320851 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP) (ab131366) was used at 1/5000 dilution.

Lane 1: NIH/3T3 (mouse embryonic fibroblast) whole cell lysate
Lane 2: ab320851 IP in NIH/3T3 (mouse embryonic fibroblast) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab320851 in NIH/3T3 whole cell lysate

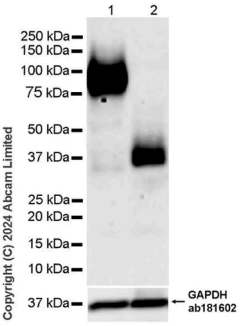
Blocking and dilution buffer and concentration: 5% NFDM/TBST

All lanes:
Immunoprecipitation - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851) at 1/30 dilution

All lanes:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution



Western blot - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Western blot staining using rabbit Anti-LAMP1/CD107a antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851) at 1/1000 dilution

Lane 1:
Untreated HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 15 µg

Lane 2:
HeLa whole cell lysate treated with Peptide:N-glycosidase F (PNGase F) at 15 µg

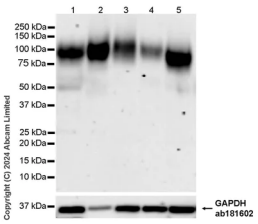
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

Observed band size: 110-44 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Western blot staining using rabbit Anti-LAMP1/CD107a antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851) at 1/1000 dilution

Lane 1:
Human colon tissue lysate at 20 µg

Lane 2:
Human spleen tissue lysate at 20 µg

Lane 3:
Mouse colon tissue lysate at 20 µg

Lane 4:
Mouse spleen tissue lysate at 20 µg

Lane 5:
Mouse kidney tissue lysate at 20 µg

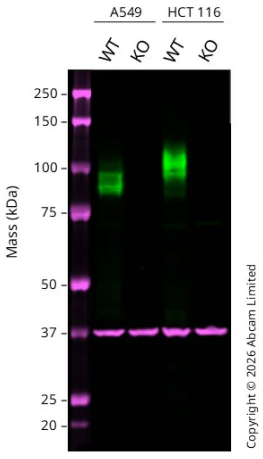
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

Observed band size: 110 kDa, 36 kDa

Exposure time: 103s



Western blot - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851)

LAMP1/CD107a Western blot staining using rabbit Anti-LAMP1/CD107a antibody

Western blot: Anti-LAMP1 antibody [RM1217] - Lysosome Marker ab320851 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 80-120 kDa in Wild-type A549 and HCT 116 cell lysates with no signal observed at this size in LAMP1 knockout A549 cell line and LAMP1 knockout HCT 116 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-LAMP1/CD107a antibody [RM1217] - Lysosome Marker (ab320851) at 1/1000 dilution

Lane 1:

Wild-type A549 cell lysates at 20 µg

Lane 2:
Western blot - Human LAMP1 knockout A549 cell line (ab288919) at 20 µg

Lane 3:
Wild-type HCT 116 ab277289 cell lysates at 20 µg

Lane 4:
Western blot - Human LAMP1 knockout HCT116 cell line (ab289151) at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 45 kDa

Observed band size: 80-120 kDa

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