Product Datasheet

LAMP-2/CD107b Antibody
NB300-591

Unit Size: 100 uL

Store at -20C. Avoid freeze-thaw cycles.

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Reviews: 1 Publications: 16

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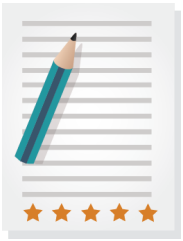
Updated 10/23/2024 v.20.1



NB300-591

LAMP-2/CD107b Antibody

Product Information

Unit Size	100 uL
Concentration	1 mg/ml
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS with 1 mg/ml BSA

Product Description

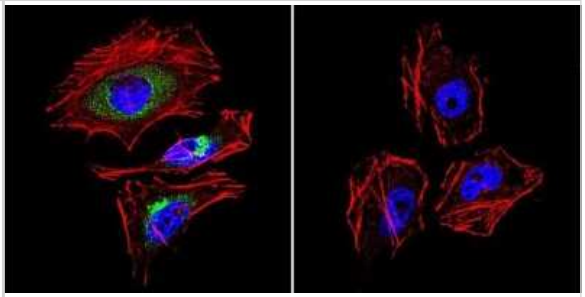
Host	Rabbit
Gene ID	3920
Gene Symbol	LAMP2
Species	Human, Mouse, Rat
Marker	Late Endosome / Lysosome marker
Specificity/Sensitivity	LAMP 2
Immunogen	LAMP-2/CD107b Antibody was made using a synthetic Peptide: CG (400) LKRHHTGYEQF(411)

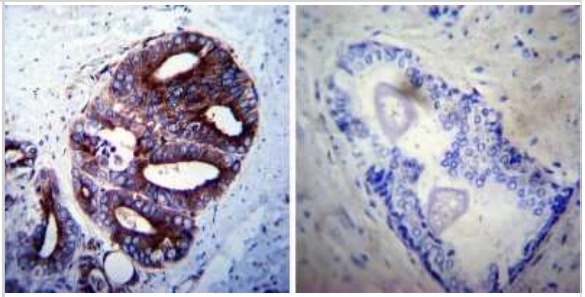
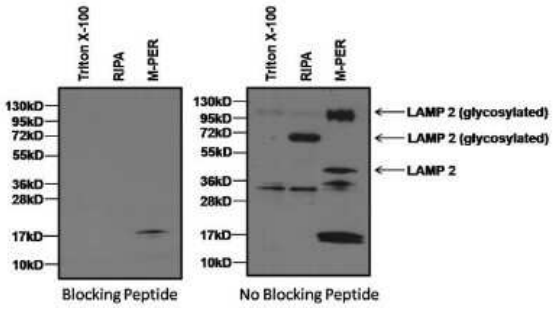
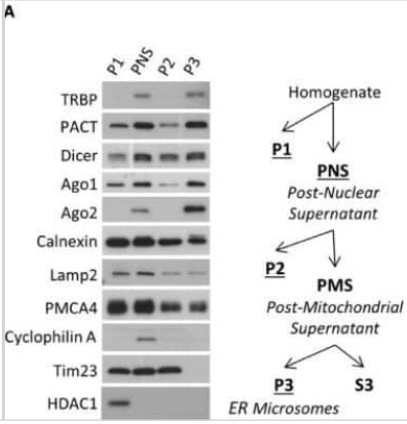
Product Application Details

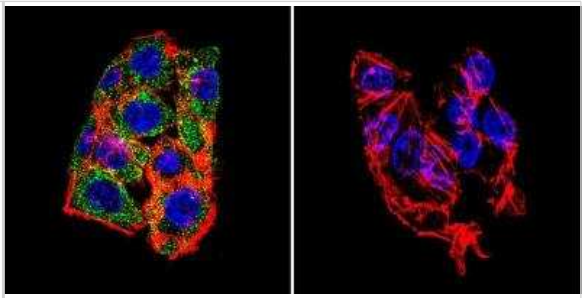
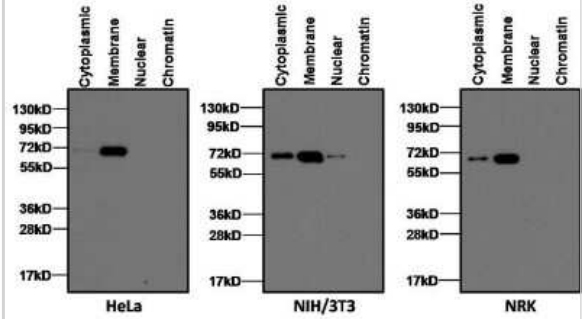
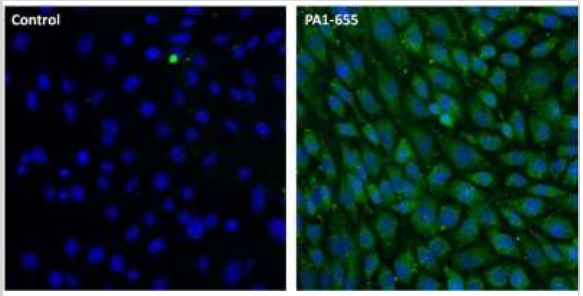
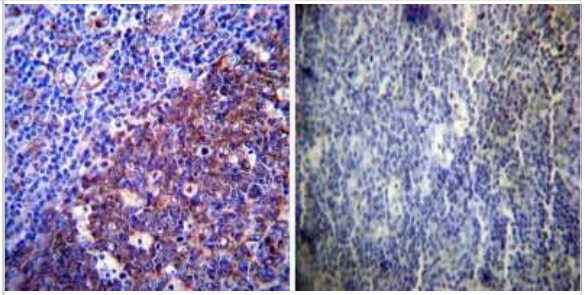
Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:100 - 1:2000, Immunohistochemistry 1:10 - 1:500, Immunocytochemistry/ Immunofluorescence 1:10 - 1:500, Immunohistochemistry-Paraffin 1:10 - 1:500, Immunohistochemistry-Frozen
Application Notes	LAMP-2/CD107b Antibody was used for IHC-Fr reported in scientific literature (PMID: 29269299)

Images

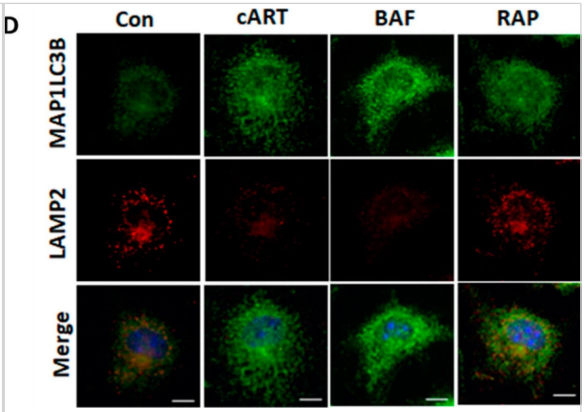
Immunocytochemistry/Immunofluorescence: LAMP-2/CD107b Antibody [NB300-591] - Analysis of LAMP-2/CD107b in HeLa Cells. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with a LAMP-2/CD107b polyclonal antibody at a dilution of 1:20 overnight at 4C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody. LAMP2 staining (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Images were taken at 60X magnification.



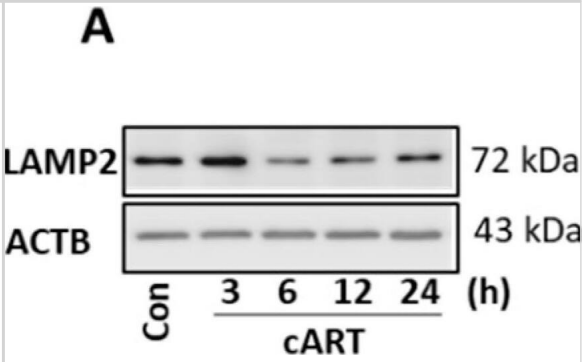
Immunohistochemistry-Paraffin: LAMP-2/CD107b Antibody [NB300-591] - Normal deparaffinized Human placenta tissue tissues stained with anti-LAMP-2/CD107b.	
Immunohistochemistry-Paraffin: LAMP-2/CD107b Antibody [NB300-591] - Both normal and cancer biopsies of deparaffinized Human prostate carcinoma tissues stained with anti-LAMP-2/CD107b.	
Western Blot: LAMP-2/CD107b Antibody [NB300-591] - Analysis of 25ug of NRK cell lysates using anti-LAMP-2/CD107b.	
Western Blot: LAMP-2/CD107b Antibody [NB300-591] - Validation of subcellular fractionation and immunocytochemistry. RLC proteins are present at ER microsomes. Lysates from 7 DIV cortical neurons were subjected to differential centrifugation to isolate nuclear pellet (P1), postnuclear supernatant (PNS), mitochondrial pellet (P2), and ER microsomal pellet (P3), as depicted in the graphic on the right. Image collected and cropped by CiteAb from the following publication (www.onlinelibrary.wiley.com/doi/10.15252/embr.201744853) licensed under a CC-BY license.	

Immunocytochemistry/Immunofluorescence: LAMP-2/CD107b Antibody [NB300-591] - Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with a LAMP-2/CD107b polyclonal antibody at a dilution of 1:100 overnight at 4 C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody and nuclei with DAPI (blue) is shown.	
Western Blot: LAMP-2/CD107b Antibody [NB300-591] - Analysis of 10 ug of HeLa (left panel), NIH/3T3 (middle panel) and NRK (right panel) whole cell lysates using anti-LAMP-2/CD107b.	
Immunocytochemistry/Immunofluorescence: LAMP-2/CD107b Antibody [NB300-591] - Analysis of LAMP-2/CD107b (green) in NIH/3T3 cells.	
Immunohistochemistry-Paraffin: LAMP-2/CD107b Antibody [NB300-591] - Both normal and cancer biopsies of deparaffinized Human tonsils were stained with anti-LAMP-2/CD107b.	

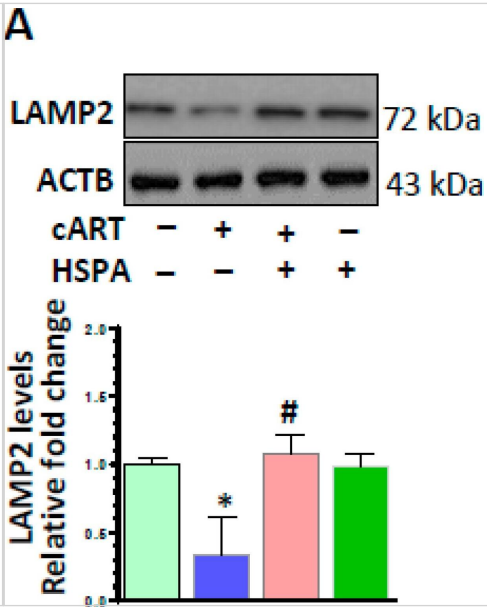
Exposure of microglia to cART resulted in blockade of autophagosome–lysosome fusion. (A) rPMs were seeded into a 12-well plate followed by tandem fluorescent-tagged MAP1LC3B plasmid. Next, cells were exposed to cART (5 µM each of TDF, FTC, & DTG) for an additional 24 h & observed by confocal imaging. The results showed that cART exposure significantly increased the formation of autophagosomes (yellow puncta). (B) Representative bar graph showing the number of autophagosome (yellow puncta) per cell. (C) Representative bar graph showing the number of autolysosome (red puncta) per cell. (D) rPMs were seeded into 12-well plates followed with cART exposure for 24 h. Cells were then double immunostained with MAP1LC3B & LAMP2 antibody & observed by immunofluorescent microscopy. (E,F) Representative bar graphs showing cART-mediated decreased LAMP2 puncta & decreased colocalization of MAP1LC3B & LAMP2. BAF—autophagosome fusion inhibitor, & rapamycin (RAP—autophagy inducer) were used as controls for autophagy flux. Data is from three independent experiments & is expressed as means ± SEM & were analyzed using one-way ANOVA. *, $p < 0.05$ vs. control. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31569373), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: LAMP-2/CD107b Antibody [NB300-591] - Exposure of rat primary microglial cells (rPMs) to combined antiretroviral therapy (cART) cocktail resulted in impaired lysosomal function. rPMs were seeded into six-well plates & treated with cART (5 µM each of tenofovir disoproxil fumarate (TDF), emtricitabine (FTC), & dolutegravir (DTG)) for the indicated time periods. (A,B) Exposure of microglia to cART resulted in a significant decrease in expression of lysosomal-associated membrane protein 2 (LAMP2) at 6 to 24 h post-treatment. (C) Representative bar graph showing cART-mediated significantly increased lysosomal membrane permeabilization (LMP) (24 h). (D,E) Microglia exposed to cART demonstrated a significant decrease in levels of mature cathepsin D (mCTSD) at 24 h post-treatment. (F) Representative bar graph showing exposure of cART significantly reduced the CTSD activity in rPMs (24 h). (G) Representative bar graph showing cART-mediated increased lysosomal pH in rPMs. (H,I) Acridine orange staining showing increased green color & reduced red color in cART-treated rPMs. H2O2 was used as a positive control for lysosome damage. Data is from three independent experiments. Actin beta (ACTB) served as a protein loading control for western blots. Data are expressed as means ± SEM & were analyzed using student t-test or one-way ANOVA. *, $p < 0.05$ vs. control; N.S., non-significant. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31569373), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: LAMP-2/CD107b Antibody [NB300-591] - HSPA overexpression abrogated cART-mediated impairment of lysosomal function. Control rPMs & heat shock protein family A (HSPA) overexpressing rPMs were seeded into six-well plates subjected to various treatments for 24 h. Protein homogenates were prepared for the detection of the indicated molecules. (A,B) Representative western blots showing overexpressing HSPA in rPMs reversed cART-mediated downregulation of LAMP2 & mCTSD expression levels. (C) Representative bar graph showing overexpression of HSPA in rPMs protected lysosomal pH. (D,E) Representative bar graphs showing HSPA protected LMP (D), & CTSD activity (E) in cART-treated rPMs. For all western blots, ACTB served as a protein loading control. Data is from three independent experiments & is expressed as means ± SEM & were analyzed using student t-test or one-way ANOVA. *, p < 0.05 vs. control; #, p < 0.05 vs. cART. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31569373), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Xu J, Xiong A, Wang X et al. Hyperoside attenuates pyrrolizidine alkaloids-induced liver injury by ameliorating TFEB-mediated mitochondrial dysfunction Archives of pharmacal research 2023-09-21 [PMID: 37733287]

Chivero ET, Liao K, Niu F et al. Engineered Extracellular Vesicles Loaded With miR-124 Attenuate Cocaine-Mediated Activation of Microglia Frontiers in Cell and Developmental Biology 2020-07-30 [PMID: 32850781] (In vivo assay)

Eshima H, Shahtout JL, Siripoksup P et al. Lipid hydroperoxides promote sarcopenia through carbonyl stress eLife 2023-03-23 [PMID: 36951533] (Immunocytochemistry/ Immunofluorescence)

Tripathi A, Thangaraj A, Chivero ET et al. N-Acetylcysteine Reverses Antiretroviral-Mediated Microglial Activation by Attenuating Autophagy-Lysosomal Dysfunction Frontiers in Neurology 2020-09-04 [PMID: 33013619] (In vivo assay)

Barcena ML, Tonini G, Haritonow N et al. Sex and age differences in AMPK phosphorylation, mitochondrial homeostasis, and inflammation in hearts from inflammatory cardiomyopathy patients Aging cell 2023-06-26 [PMID: 37365150] (WB, Human)

Guo L, Reed K, Carter A et al. Sleep-Disturbance-Induced Microglial Activation Involves CRH-Mediated Galectin 3 and Autophagy Dysregulation Cells 2022-12-30 [PMID: 36611953] (WB, Mouse)

Shearn CT, Anderson AL, Devereux MW et al. The autophagic protein p62 is a target of reactive aldehydes in human and murine cholestatic liver disease PloS one 2022-11-15 [PMID: 36378690] (IHC-P, Mouse)

Cheng Y, Kim WK, Wellman LL Et al. Short-Term Sleep Fragmentation Dysregulates Autophagy in a Brain Region-Specific Manner Life (Basel, Switzerland) 2021-10-16 [PMID: 34685469] (Mouse)

Guo ML, Chivero ET, Callen SE, Buch S NLRP3 Inflammasome Is Involved in Cocaine-Mediated Potentiation on Behavioral Changes in CX3CR1-Deficient Mice Journal of personalized medicine 2021-09-27 [PMID: 34683104] (WB, Mouse)

Cohignac V, Landry MJ, Ridoux A et al. Carbon nanotubes, but not spherical nanoparticles, block autophagy by a shape-related targeting of lysosomes in murine macrophages Autophagy. 2018-09-18 [PMID: 29938576] (WB, ICC/IF, Mouse)

Tripathi A, Thangaraj A, Chivero ET et al. Antiretroviral-Mediated Microglial Activation Involves Dysregulated Autophagy and Lysosomal Dysfunction Cells 2019-09-28 [PMID: 31569373] (ICC/IF, Rat)

Cheng XT, Xie YX, Zhou B, Huang N et al. Characterization of LAMP1-labeled nondegradative lysosomal and endocytic compartments in neurons. J Cell Biol. 2018-09-03 [PMID: 29695488] (WB, Rat)

More publications at http://www.novusbio.com/NB300-591

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NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NBP2-50563-50ug	Recombinant Mouse LAMP-2/CD107b His Protein

Limitations
This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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