

Rabbit Cleaved LC3B Polyclonal Antibody | anti-MAP1LC3B antibody

Cleaved LC3B Antibody

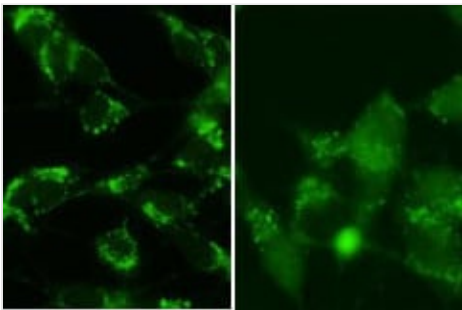
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA286048	Rabbit	Human, Mouse (Predicted Reactivity: Bovine)	Immunocytochemistry, ELISA, Immunofluorescence

PRODUCT SYNONYMS

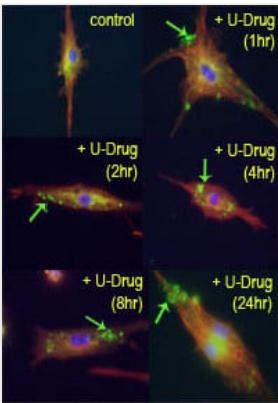
Cleaved LC3B; Polyclonal Antibody; Cleaved LC3B Antibody; Microtubule-associated proteins 1A/1B light chain 3B; Autophagy-related protein LC3 B; Autophagy-related ubiquitin-like modifier LC3 B; MAP1 light chain 3-like protein 2; MAP1A/MAP1B light chain 3 B; MAP1A/MAP1B LC3 B; Microtubule-associated protein 1 light chain 3 beta; MAP1LC3B; MAP1ALC3; anti-MAP1LC3B antibody

PRODUCT SPECIFICATIONS

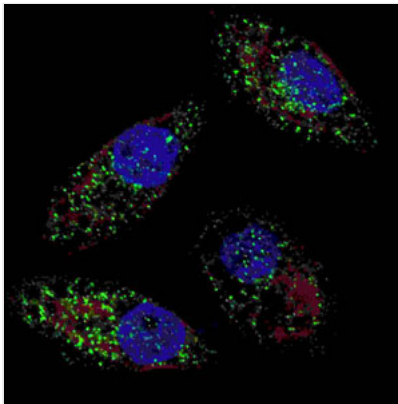
Host	Rabbit
Reactivity	Human, Mouse (Predicted Reactivity: Bovine)
Clonality	Polyclonal
Isotype	Rabbit Ig
Specificity	This Cleaved LC3B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 89-122 amino acids from human Cleaved LC3B.
Purity/Purification	Purified Rabbit Polyclonal Antibody (Pab)
Form/Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Sequence Positions	89-122
Sequence Length	125
Applicable Applications for anti-MAP1LC3B antibody	ICC (Immunocytochemistry), ELISA, IF (Immunofluorescence)
Function	Ubiquitin-like modifier involved in formation of autophagosomal vacuoles (autophagosomes). Plays a role in mitophagy which contributes to regulate mitochondrial quantity and quality by eliminating the mitochondria to a basal level to fulfill cellular energy requirements and preventing excess ROS production. Whereas LC3s are involved in elongation of the phagophore membrane, the GABARAP/GATE-16 subfamily is essential for a later stage in autophagosome maturation. Promotes primary ciliogenesis by removing OFD1 from centriolar satellites via the autophagic pathway.
Cellular Location	Cytoplasm, cytoskeleton. Endomembrane system; Lipid-anchor. Cytoplasmic vesicle, autophagosome membrane; Lipid-anchor. Note=LC3-II binds to the autophagic membranes Localizes also to discrete punctae along the ciliary axoneme (By similarity).
Tissue Location	Most abundant in heart, brain, skeletal muscle and testis. Little expression observed in liver.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.



ICC (Immunocytochemistry)
SY5Y cells were pretreated with 5nM bafilomycin for 24hr and fixed in methanol (left panel) or 4% of paraformaldehyde (right panel). Treatment with antibody at dilution 1:100. Data courtesy of Jianhui Zhu, MD, PhD & Charleen T. Chu, MD, PhD, University of Pittsburgh School of Medicine.



IF (Immunofluorescence)
Time course study of mouse leukaemic monocyte macrophage cells treated with U18666A, a drug that causes cholesterol and lipid storage in cells, thereby blocking fusion between late endosomes and lysosomes. Cleaved-LC3 (APG8b) antibody detected punctuate staining indicative of autophagic vacuole or phagosome structures. Data courtesy of Dr. Barry Boland, Department of Pharmacology, Oxford University.



IF (Immunofluorescence)
Fluorescent image of U251 cells stained with cleaved LC3B antibody. U251 cells were treated with Chloroquine (50 uM,16h), then fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AAA286048 cleaved LC3B primary antibody (1:100, 2 h at room temperature). For secondary antibody, Alexa Fluor 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 ug/ml, 5 min). LC3 immunoreactivity is localized to autophagic vacuoles in the cytoplasm of U251 cells.

ADDITIONAL INFORMATION

Related Product Information for anti-MAP1LC3B antibody	Macroautophagy is the major inducible pathway for the general turnover of cytoplasmic constituents in eukaryotic cells, it is also responsible for the degradation of active cytoplasmic enzymes and organelles during nutrient starvation. Macroautophagy involves the formation of double-membrane bound autophagosomes which enclose the cytoplasmic constituent targeted for degradation in a membrane bound structure, which then fuse with the lysosome (or vacuole) releasing a single-membrane bound autophagic bodies which are then degraded within the lysosome (or vacuole). MAP1A and MAP1B are microtubule-associated proteins which mediate the physical interactions between microtubules and components of the cytoskeleton. These proteins are involved in formation of autophagosomal vacuoles (autophagosomes). MAP1A and MAP1B each consist of a heavy chain subunit and multiple light chain subunits. MAP1LC3b is one of the light chain subunits and can associate with either MAP1A or MAP1B. The precursor molecule is cleaved by APG4B/ATG4B to form the cytosolic form, LC3-I. This is activated by APG7L/ATG7, transferred to ATG3 and conjugated to phospholipid to form the membrane-bound form, LC3-II.
Product Categories/Family for anti-MAP1LC3B antibody	Cancer; Cardiovascular; Metabolism; Neuroscience; Signal Transduction; Autophagy

References	References for protein: 1.Baehrecke EH. Nat Rev Mol Cell Biol. 6(6):505-10. (2005) 2.Lum JJ, et al. Nat Rev Mol Cell Biol. 6(6):439-48. (2005) 3.Greenberg JT. Dev Cell. 8(6):799-801. (2005) 4. Levine B. Cell. 120(2):159-62. (2005) 5.Shintani T and Klionsky DJ. Science. 306(5698):990-5. (2004) 6.Tanida I., et al. Int. J. Biochem. Cell Biol. 36:2503-2518(2004) 7.He H., et al. J. Biol. Chem. 278:29278-29287(2003) 8.Tanida I., et al. J. Biol. Chem. 279:36268-36276(2004) References for U251 cell line: 1. Westermark B.; Pontén J.; Hugosson R. (1973)." Determinants for the establishment of permanent tissue culture lines from human gliomas". Acta Pathol Microbiol Scand A. 81:791-805. [PMID: 4359449]. 2. Pontén, J.,Westermark B. (1978)." Properties of Human Malignant Glioma Cells in Vitro". Medical Biology 56: 184-193.[PMID: 359950]. 3. Geng Y.;Kohli L.; Klocke B.J.; Roth K.A.(2010). "Chloroquine-induced autophagic vacuole accumulation and cell death in glioma cells is p53 independent". Neuro Oncol. 12(5): 473-481.[PMID: 20406898].
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NCBI AND UNIPROT INFORMATION

NCBI GI #	12383056
NCBI GeneID	81631
NCBI Accession #	NP_073729.1
NCBI GenBank Nucleotide #	NM_022818.4
UniProt Accession #	Q9GZQ8; Q6NW02
NCBI Official Full Name	microtubule-associated proteins 1A/1B light chain 3B
NCBI Official Synonym Full Names	microtubule-associated protein 1 light chain 3 beta
NCBI Official Symbol	MAP1LC3B
NCBI Official Synonym Symbols	LC3B; ATG8F; MAP1LC3B-a; MAP1A/1BLC3
NCBI Protein Information	microtubule-associated proteins 1A/1B light chain 3B
UniProt Protein Name	Microtubule-associated proteins 1A/1B light chain 3B
UniProt Gene Name	MAP1LC3B
UniProt Synonym Gene Names	MAP1ALC3; MAP1A/MAP1B LC3 B
UniProt Entry Name	MLP3B_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.