

Rabbit lc3A/B Polyclonal Antibody | anti-lc3A/B antibody

lc3A/B Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA322047	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

lc3A/B; Polyclonal Antibody; lc3A/B Antibody; ATG8F; Autophagy-related protein LC3 B; Autophagy-related ubiquitin-like modifier LC3 B; LC3B; LC3II; MAP1 light chain 3 like protein 2; MAP1 light chain 3-like protein 2; MAP1A/1BLC3; MAP1A/MAP1B LC3 B; MAP1A/MAP1B light chain 3 B; MAP1ALC3; MAP1LC3B a; Map1lc3b; Microtubule associated protein 1 light chain 3 beta; Microtubule-associated protein 1 light chain 3 beta; Microtubule-associated proteins 1A/1B light chain 3B; MLP3B_HUMAN; anti-lc3A/B antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	lc3A/B detects endogenous levels of total lc3A/B
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	125
Applicable Applications for anti-lc3A/B antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human lc3A/B
Subcellular Location	Cytoplasm > Cytoskeleton. Endomembrane System. Cytoplasmic Vesicle > Autophagosome Membrane. LC3-II binds to the autophagic membranes.
Tissue Specificity	Most abundant in heart, brain, skeletal muscle and testis. Little expression observed in liver.
Predicted Cross Reactivity	Pig, Zebrafish, Bovine, Sheep, Dog, Xenopus
Similarity	Pig (100%), Zebrafish (93%), Bovine (100%), Sheep (100%), Dog (100%), Xenopus (100%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemisry)

AAA322047 at 1/100 staining Mouse testis tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

AAA322047 staining lovo cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37 degree C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37 degree C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.



WB (Western Blot)

Western blot analysis of lc3A/Bexpression in HeLa whole cell lysate.The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-lc3A/B antibody

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.

Subunit Structure: 3 different light chains, LC1, LC2 and LC3, can associate with MAP1A and MAP1B proteins (By similarity). Interacts at microtubules with CABP1 (via EF-hands 1 and 2) but not with calmodulin (PubMed:15095872). Interacts with FYCO1 (via C-terminus) (PubMed:20100911, PubMed:24089205). Interacts with TP53INP1 and TP53INP2 (PubMed:22470510). Interacts with TBC1D25 (PubMed:21383079). Directly interacts with SQSTM1; this interaction leads to MAP1LC3B recruitment to inclusion bodies containing polyubiquitinated protein aggregates and to inclusion body degradation by autophagy (PubMed:17580304, PubMed:24089205, PubMed:24668264, PubMed:18524774). Interacts with ATG4B, MAPK15 and BNIP3 (PubMed:22948227, PubMed:23209295). Interacts with MAPB1, KEAP1, PCM1, OFD1, CEP131, and TECPR2 (PubMed:20562859, PubMed:24089205). Interacts with TBC1D5 (PubMed:22354992). Found in a complex with UBQLN1 and UBQLN2 (PubMed:20529957). Interacts with UBQLN4 (via STI1 1 and 2 domains). Interacts with UBQLN1 in the presence of UBQLN4 (PubMed:23459205). Interacts with ATG13 (PubMed:24290141). Interacts with RETREG2, RETREG1 and RETREG3 (PubMed:26040720). No interaction, or very weak, with WDFY3 (PubMed:24668264). Interacts with PLCL1; the interaction inhibits autophagosome formation (By similarity).

Post-translational Modifications: The precursor molecule is cleaved by 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 (PubMed:15187094). The Legionella effector RavZ is a deconjugating enzyme that produces an ATG8 product that would be resistant to re-conjugation by the host machinery due to the cleavage of the reactive C-terminal glycine. Phosphorylation at Thr-12 by PKA inhibits conjugation to phosphatidylethanolamine (PE) (By similarity). Interaction with MAPK15 reduces the inhibitory phosphorylation and increases autophagy activity.

Similarity: Belongs to the ATG8 family.

References

Tang Z, Cui K, Luan Y, Ruan Y, Wang T, Yang J, Wang S, Liu J, Wang D; Journal: Andrology. Human tissue kallikrein 1 ameliorates erectile function via modulation of macroautophagy in aged transgenic rats. Shao L, Yang W, Xu R, Zhu S, Huang Y, Li H, Wu X, Yue M, Xiong X, Chen X, Kuang B, Fan G, Zhu Q, Zeng H; Journal: Stem Cell Res Ther. Inhibition of mTORC1 signaling protects kidney from irradiation-induced toxicity via accelerating recovery of renal stem-like cells. Wu CZ, Zheng JJ, Bai YH, Xia P, Zhang HC, Guo Y; Journal: Onco Targets Ther. HMGB1/RAGE axis mediates the apoptosis, invasion, autophagy, and angiogenesis of the renal cell carcinoma. Feng X, Lu J, He Z, Wang Y, Qi F, Pi R, Zhang G; Journal: Front Cell Infect Microbiol. Mycobacterium smegmatis Induces Neurite Outgrowth and Differentiation in an Autophagy-Independent Manner in PC12 and C17.2 Cells. shuaishuai Zhang, Junqin Li, Huijie Jiang, Yi Gao, Pengzhen Cheng, Tianqing Cao, Donglin Li, Jimeng Wang, Yue Song, Bing Liu, Hao Wu, Chun-Mei Wang, Liu Yang, and Guoxian Pei; Journal: STEM CELLS INT.

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
Molecular Weight	Observed: 14.16 kDa Predicted: 15 kDa
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

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.

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