

Rabbit MAP1LC3A Polyclonal Antibody | anti-MAP1LC3A antibody

MAP1LC3A Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA327120	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

MAP1LC3A; Polyclonal Antibody; MAP1LC3A Antibody; ATG8E; Autophagy-related protein LC3 A; Autophagy-related ubiquitin-like modifier LC3 A; LC3; LC3A; MAP1 light chain 3 like protein 1; MAP1 light chain 3-like protein 1; MAP1A/1B light chain 3 A; MAP1A/MAP1B LC3 A; MAP1A/MAP1B light chain 3 A; MAP1ALC3; MAP1BLC3; Map1lc3a; Microtubule associated proteins 1A/1B light chain 3; Microtubule-associated protein 1 light chain 3 alpha; Microtubule-associated proteins 1A and 1B; light chain 3; Microtubule-associated proteins 1A/1B light chain 3A; MLP3A_HUMAN; anti-MAP1LC3A antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	MAP1LC3A antibody detects endogenous levels of total MAP1LC3A
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	121
Applicable Applications for anti-MAP1LC3A antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human MAP1LC3A
Subcellular Location	Cytoplasm > Cytoskeleton. Endomembrane System. Cytoplasmic Vesicle > Autophagosome Membrane. LC3-II binds to the autophagic membranes.
Tissue Specificity	Most abundant in heart, brain, liver, skeletal muscle and testis but absent in thymus and peripheral blood leukocytes.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

AAA327120 staining U87 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



IHC (Immunohistochemistry)

AAA327120 at 1/100 staining Mouse muscle 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.



WB (Western Blot)

Western blot analysis of Hela cell lysate, using MAP1LC3A Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-MAP1LC3A antibody

Description: Autophagy is a catabolic process for the autophagosomic-lysosomal degradation of bulk cytoplasmic contents (1, 2). Autophagy is generally activated by conditions of nutrient deprivation but has also been associated with a number of physiological processes including development, differentiation, neurodegenerative diseases, infection and cancer (3). Autophagy marker Light Chain 3 (LC3) was originally identified as a subunit of microtubule-associated proteins 1A and 1B (termed MAP1LC3) (4), and subsequently found to contain similarity to the yeast protein Apg8/Aut7/Cvt5 critical for autophagy (5). Three human LC3 isoforms (LC3A, LC3B, and LC3C) undergo post-translational modifications during autophagy (6-9). Cleavage of LC3 at the carboxy terminus immediately following synthesis yields the cytosolic LC3-I form. During autophagy, LC3-I is converted to LC3-II through lipidation by a ubiquitin-like system involving Atg7 and Atg3 that allows for LC3 to become associated with autophagic vesicles (6-10). The presence of LC3 in autophagosomes and the conversion of LC3 to the lower migrating form LC3-II have been used as indicators of autophagy (11).

Function: Ubiquitin-like modifier involved in formation of autophagosomal vacuoles (autophagosomes) (PubMed:20713600, PubMed:24290141). Whereas LC3s are involved in elongation of the phagophore membrane, the GABARAP/GATE-16 subfamily is essential for a later stage in autophagosome maturation (PubMed:20713600). Subunit Structure: 3 different light chains, LC1, LC2 and LC3, can associate with MAP1A and MAP1B proteins (By similarity). Interacts with TP53INP1 and TP53INP2 (PubMed:19056683, PubMed:22470510). Directly interacts with SQSTM1; this interaction leads to MAP1LC3A recruitment to inclusion bodies containing polyubiquitinated protein aggregates and to inclusion body degradation by autophagy (PubMed:17580304). Interacts with ATG13 (PubMed:24290141, PubMed:23043107). Interacts with ULK1 (PubMed:23043107). Interacts with TBC1D5 (PubMed:22354992). Found in a complex with UBQLN1 and UBQLN2 (PubMed:20529957). Interacts with UBQLN4 (via ST11 1 and 2 domains). Interacts with UBQLN1 in the presence of UBQLN4 (PubMed:23459205). Interacts with TRIM5 (PubMed:25127057). Interacts with MEFV (PubMed:26347139). Interacts with RETREG1, RETREG2 and RETREG3 (PubMed:26040720).

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 Ser-12 by PKA inhibits conjugation to phosphatidylethanolamine (PE). Interaction with MAPK15 reduces the inhibitory phosphorylation and increases autophagy activity.

Similarity: Belongs to the ATG8 family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	14210522
NCBI GeneID	84557
NCBI Accession #	NP_115903.1
NCBI GenBank Nucleotide #	NM_032514.3

UniProt Accession #	Q9H492 ; Q9BXW5 ; E1P5P4 ; E1P5P5
Molecular Weight	Observed: 14 kDa Predicted: 15 kDa
NCBI Official Full Name	microtubule-associated proteins 1A/1B light chain 3A isoform a
NCBI Official Synonym Full Names	microtubule associated protein 1 light chain 3 alpha
NCBI Official Symbol	MAP1LC3A
NCBI Official Synonym Symbols	LC3; LC3A; ATG8E; MAP1ALC3; MAP1BLC3
NCBI Protein Information	microtubule-associated proteins 1A/1B light chain 3A
UniProt Protein Name	Microtubule-associated proteins 1A/1B light chain 3A
UniProt Gene Name	MAP1LC3A
UniProt Synonym Gene Names	MAP1A/MAP1B LC3 A

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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Online datasheet: <https://stage.aaabiotech.com/polyclonal/map1lc3a-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/327120>