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MAP1LC3A Antibody

Catalog # ASC11726

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9H492
Other Accession	NP_852610, 31563518
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	14272
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	MAP1LC3A antibody can be used for detection of MAP1LC3A by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	84557
Other Names	Microtubule-associated proteins 1A/1B light chain 3A, Autophagy-related protein LC3 A, Autophagy-related ubiquitin-like modifier LC3 A, MAP1 light chain 3-like protein 1, MAP1A/MAP1B light chain 3 A, MAP1A/MAP1B LC3 A, Microtubule-associated protein 1 light chain 3 alpha, MAP1LC3A
Target/Specificity	MAP1LC3A; MAP1LC3A antibody is human specific. At least two isoforms of MAP1LC3A are known to exist. MAP1LC3A antibody is predicted to not cross-react with MAP1LC3B or MAP1LC3C.
Reconstitution & Storage	MAP1LC3A antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	MAP1LC3A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAP1LC3A
Function	Ubiquitin-like modifier involved in formation of autophagosomal vacuoles (autophagosomes) (PubMed:20713600, PubMed:24290141). While 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). Through its interaction with the reticulophagy receptor TEX264, participates in the remodeling of subdomains of the endoplasmic reticulum into autophagosomes upon nutrient stress, which then fuse with

	lysosomes for endoplasmic reticulum turnover (PubMed:31006537, PubMed:31006538).
Cellular Location	Cytoplasmic vesicle, autophagosome membrane; Lipid-anchor. Endomembrane system; Lipid-anchor. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:Q91VR7}. Note=LC3-II binds to the autophagic membranes.
Tissue Location	Most abundant in heart, brain, liver, skeletal muscle and testis but absent in thymus and peripheral blood leukocytes

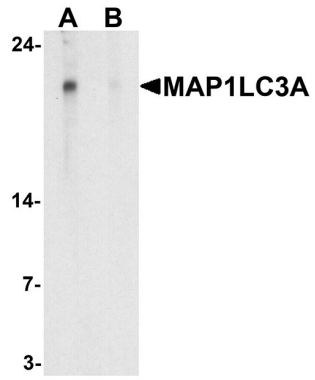
Background

Microtubule-associated proteins (MAPs) regulate microtubule stability and play critical roles in neuronal development and plasticity (1). MAP1LC3A belongs to the MAP1 LC3 family of proteins that form mature complexes with MAP1A and MAP1B which are thought to be important in the formation and development of axons and dendrites (2). MAP1LC3A is one of three isoforms of MAP1LC3, the mammalian homolog of yeast ATG8, an essential autophagy protein. These isoforms exhibit distinct expression patterns and MAP1LC3A, like MAP1LC3A but not MAP1LC3B, is post-translationally modified, suggesting the three isoforms may have different physiological functions (3).

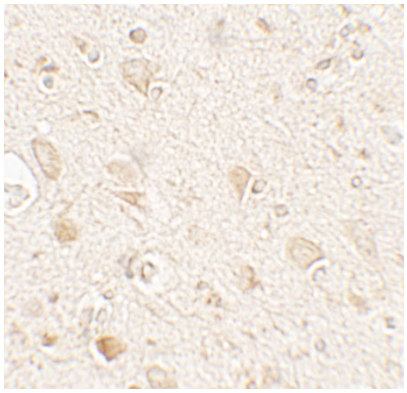
References

Mandelkow E and Mandelkow EM. Microtubules and microtubule-associated proteins. Curr. Opin. Cell Biol. 1995; 7:72-81.
Halpain S and Dehmelt L. The MAP1 family of microtubule-associated proteins. Genome Biol. 2006; 7:224.
He H, Dang Y, Dai F, et al. Post-translational modifications of three members of the human MAP1LC3 family and detection of a novel type of modification for MAP1LC3B. J. Biol. Chem. 2003; 278:29278-87.

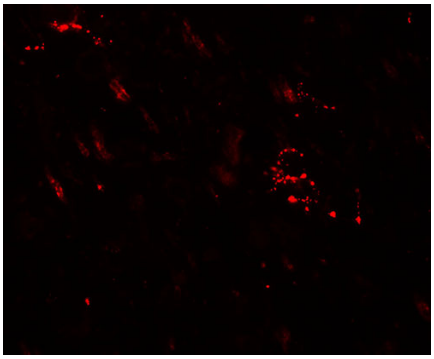
Images



Western blot analysis of MAP1LC3A in HeLa cell lysate with MAP1LC3A antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of MAP1LC3A in human brain tissue with MAP1LC3A antibody at 5 µg/mL.



Immunofluorescence of MAP1LC3A in human brain tissue with MAP1LC3A antibody at 20 µg/mL.