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MAP1LC3B Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1713a

Product Information

Application	WB, FC, E
Primary Accession	Q9GZQ8
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	5H12
Isotype	IgG1
Calculated MW	14688
Description	The product of this gene is a subunit of neuronal microtubule-associated MAP1A and MAP1B proteins, which are involved in microtubule assembly and important for neurogenesis. Studies on the rat homolog implicate a role for this gene in autophagy, a process that involves the bulk degradation of cytoplasmic component.
Immunogen	Purified recombinant fragment of human MAP1LC3B expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	81631
Other Names	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
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MAP1LC3B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAP1LC3B (HGNC:13352)

Synonyms	MAP1ALC3
Function	Ubiquitin-like modifier involved in formation of autophagosomal vacuoles (autophagosomes) (PubMed:20418806, PubMed:23209295, PubMed:28017329). 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 (PubMed:23209295, PubMed:28017329). In response to cellular stress and upon mitochondria fission, binds C-18 ceramides and anchors autophagolysosomes to outer mitochondrial membranes to eliminate damaged mitochondria (PubMed:22922758). 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:20418806, PubMed:23209295, PubMed:28017329). Promotes primary ciliogenesis by removing OFD1 from centriolar satellites via the autophagic pathway (PubMed:24089205). 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). Upon nutrient stress, directly recruits cofactor JMY to the phagophore membrane surfaces and promotes JMY's actin nucleation activity and autophagosome biogenesis during autophagy (PubMed:30420355).
Cellular Location	Cytoplasmic vesicle, autophagosome membrane; Lipid-anchor Endomembrane system; Lipid-anchor Mitochondrion membrane; Lipid-anchor. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:Q9CQV6}. Cytoplasmic vesicle. Note=LC3-II binds to the autophagic membranes. LC3-II localizes with the mitochondrial inner membrane during Parkin-mediated mitophagy (PubMed:28017329). Also localizes to discrete punctae along the ciliary axoneme
Tissue Location	Most abundant in heart, brain, skeletal muscle and testis. Little expression observed in liver

References

1. J Clin Lab Anal. 2009;23(4):249-58. 2. Ai Zheng. 2008 Jan;27(1):25-9.

Images

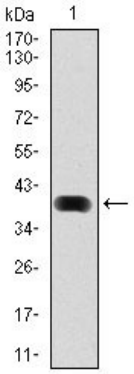

Figure 1: Western blot analysis using MAP1LC3B mAb against human MAP1LC3B (AA: 1-125) recombinant protein. (Expected MW is 40.2 kDa)

Figure 2: Western blot analysis using MAP1LC3B mAb against HEK293 (1) and MAP1LC3B (AA: 1-125)-hIgGFc transfected HEK293 (2) cell lysate.

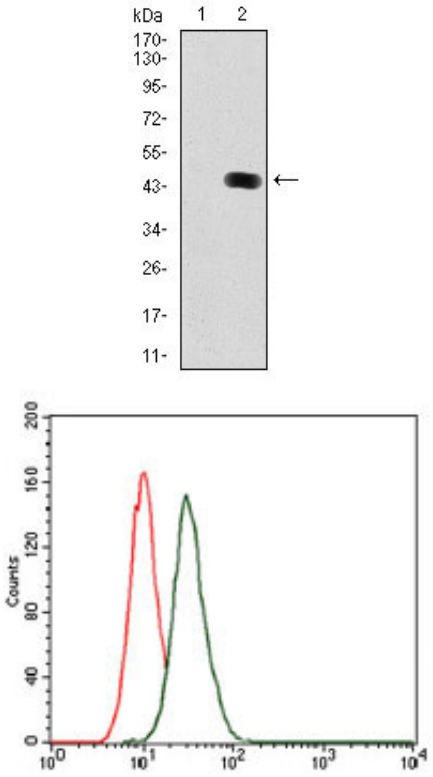

Figure 3: Flow cytometric analysis of HeLa cells using MAP1LC3B mouse mAb (green) and negative control (red).