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Anti-LC3B Antibody

Catalog # AP61601

Product Information

Application	WB, IHC, IF/IC
Primary Accession	Q9GZQ8
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	14688

Additional Information

Gene ID	81631
Other Names	MAP1ALC3; 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
Target/Specificity	Recombinant protein corresponding to human LC3B.
Dilution	WB~~WB (1/1000 - 1/2000), IHC (1/200 - 1/500), IF/IC (1/100 - 1/200) IHC~~WB (1/1000 - 1/2000), IHC (1/200 - 1/500), IF/IC (1/100 - 1/200) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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).

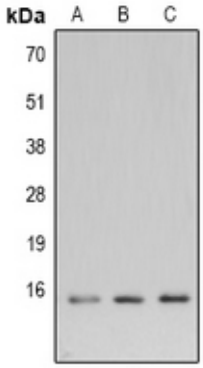
Cellular Location

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

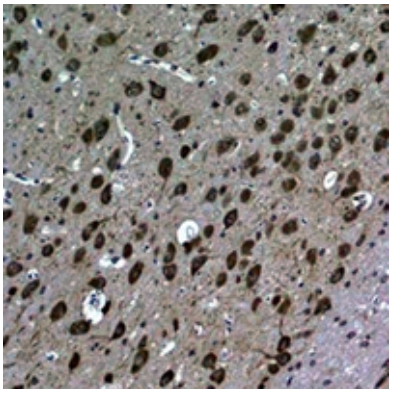
Tissue Location

Most abundant in heart, brain, skeletal muscle and testis. Little expression observed in liver

Images

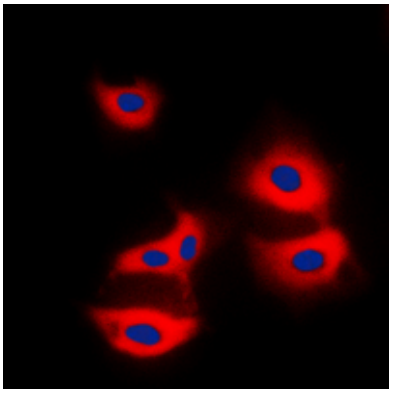


Western blot analysis of LC3B expression in Hela (A), NIHC3T3 (B), rat brain (C) whole cell lysates. (Predicted band size: 14 kD; Observed band size: 14; 16 kD)

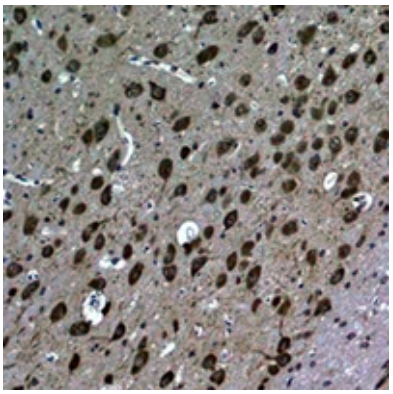


Immunohistochemical analysis of LC3B staining in rat brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Immunofluorescent analysis of LC3B staining in Hela cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark. DAPI was used to stain the cell



nuclei (blue).



Immunohistochemical analysis of LC3B staining in rat brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Citations

- ATG5 and ATG7 Expression Levels Are Reduced in Cutaneous Melanoma and Regulated by NRF1
- PDK1 inhibition reduces autophagy and cell senescence through the PI3K/AKT signalling pathway in a cigarette smoke mouse emphysema model

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