

**LC3 Antibody (APG8A/B)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP1803a****Specification**

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**LC3 Antibody (APG8A/B) - Product Information**

Application	IHC-P, WB,E
Primary Accession	<a href="#">O9GZQ8</a>
Other Accession	<a href="#">A6NCE7</a> , <a href="#">O62625</a> , <a href="#">O9COV6</a> , <a href="#">O41515</a> , <a href="#">O6XVN8</a> , <a href="#">O91VR7</a> , <a href="#">O9H492</a> , <a href="#">O2HJ23</a> , <a href="#">O6NX90</a>
Reactivity	Human
Predicted	Zebrafish, Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	23-52

**LC3 Antibody (APG8A/B) - 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

**Target/Specificity**

This LC3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 23-52 amino acids from human LC3.

**Dilution**

IHC-P~~1:50~100

WB~~1:500

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

LC3 Antibody (APG8A/B) is for research use only and not for use in diagnostic or therapeutic procedures.

**LC3 Antibody (APG8A/B) - 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**

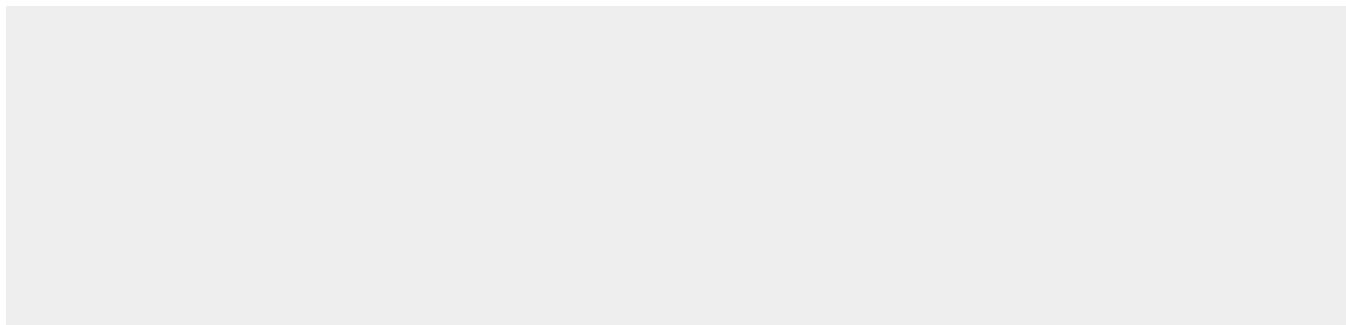
Most abundant in heart, brain, skeletal muscle and testis. Little expression observed in liver

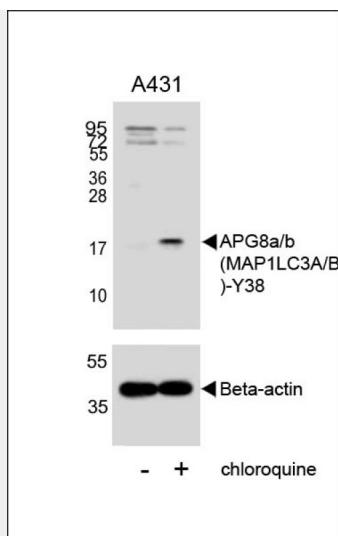
#### **LC3 Antibody (APG8A/B) - Protocols**

Provided below are standard protocols that you may find useful for product applications.

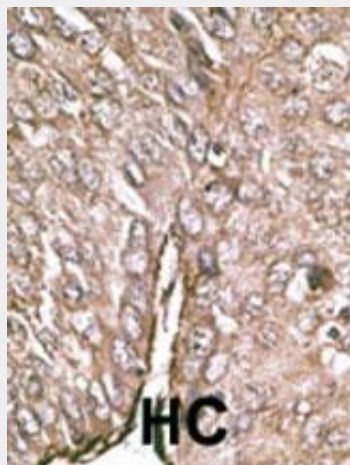
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **LC3 Antibody (APG8A/B) - Images**





Western blot analysis of lysates from A431 cell line, untreated or treated with chloroquine , 100ng/ml, using APG8a/b (MAP1LC3A/B) Antibody (Y38)(Cat. #AP1803A)(upper) or Beta-actin (lower).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

### LC3 Antibody (APG8A/B) - Background

Macroautophagy is the major inducible pathway for the general turnover of cytoplasmic constituents in eukaryotic cells, it is also responsible for the degradation of active cytoplasmic enzymes and organelles during nutrient starvation. Macroautophagy involves the formation of double-membrane bound autophagosomes which enclose the cytoplasmic constituent targeted for degradation in a membrane bound structure, which then fuse with the lysosome (or vacuole) releasing a single-membrane bound autophagic bodies which are then degraded within the lysosome (or vacuole). MAP1A and MAP1B are microtubule-associated proteins which mediate the physical interactions between microtubules and components of the cytoskeleton. These proteins are involved in formation of autophagosomal vacuoles (autophagosomes). MAP1A and MAP1B each consist of a heavy chain subunit and multiple light chain subunits. MAP1LC3a and MAP1LC3b are light chain subunits and can associate with either MAP1A or MAP1B. The precursor molecules are cleaved by APG4B/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.

**LC3 Antibody (APG8A/B) - References**

- Baehrecke EH. Nat Rev Mol Cell Biol. 6(6):505-10. (2005)  
Lum JJ, et al. Nat Rev Mol Cell Biol. 6(6):439-48. (2005)  
Greenberg JT. Dev Cell. 8(6):799-801. (2005)  
Levine B. Cell. 120(2):159-62. (2005)  
Shintani T and Klionsky DJ. Science. 306(5698):990-5. (2004)  
Tanida I., et al. Int. J. Biochem. Cell Biol. 36:2503-2518(2004)  
He H., et al. J. Biol. Chem. 278:29278-29287(2003)  
Tanida I., et al. J. Biol. Chem. 279:36268-36276(2004)