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LC3 Antibody (APG8A) (P45)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP1801b

Specification

LC3 Antibody (APG8A) (P45) - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	Q9H492, Q9GZQ8
Other Accession	A6NCE7, Q62625, Q9CQV6, Q41515, Q6XVN8, Q91VR7, Q2HJ23, Q6NX90, Q9H492, Q9GZQ8
Reactivity	**Human**
Predicted	**Zebrafish, Bovine, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**30-56**

LC3 Antibody (APG8A) (P45) - Additional Information

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

This LC3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 30-56 amino acids from human LC3.

Dilution

IF~~1:100
WB~~1:1000
IHC-P~~1:10~50

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) (P45) is for research use only and not for use in diagnostic or therapeutic procedures.

LC3 Antibody (APG8A) (P45) - Protein Information

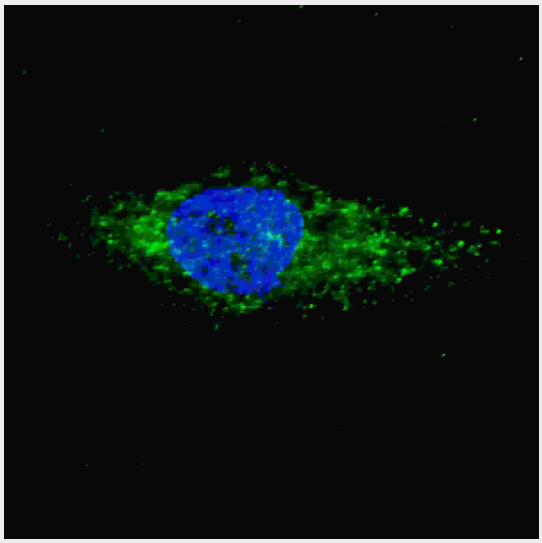
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LC3 Antibody (APG8A) (P45) - Protocols

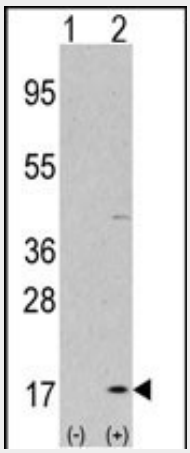
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

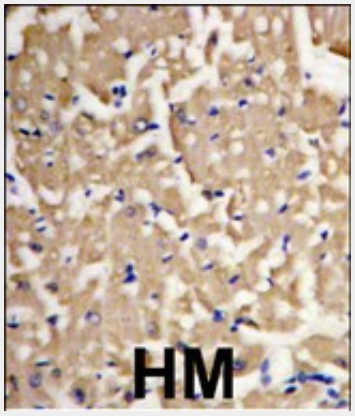
LC3 Antibody (APG8A) (P45) - Images



Fluorescent image of U251 cells stained with AP1801b LC3 (APG8A) (P45) antibody. U251 cells were treated with Chloroquine (50 µM,16h), then fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AP1801b LC3 (APG8A) (P45) primary antibody (1:100, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). LC3 immunoreactivity is localized to autophagic vacuoles in the cytoplasm of U251 cells.



Western blot analysis of LC3 (APG8a) (arrow) using purified Pab (Cat.#AP1801b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the LC3 (APG8a) gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded heart muscle tissue reacted with Autophagy LC3 APG8a (MAP1LC3A) Antibody (P45) (Cat.#AP1801b), 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.

LC3 Antibody (APG8A) (P45) - 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 is one of the light chain subunits and can associate with either MAP1A or MAP1B. The precursor molecule is 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) (P45) - References

References for protein:
1.Tanida, I., et al., J. Biol. Chem. 279(35):36268-36276 (2004).
2.He, H., et al., J. Biol. Chem. 278(31):29278-29287 (2003).
3.Mann, S.S., et al., J. Neurosci. Res. 43(5):535-544 (1996).

References for U251 cell line:
1. Westermark B.; Pontén J.; Hugosson R. (1973).” Determinants for the establishment of permanent tissue culture lines from human gliomas”. Acta Pathol Microbiol Scand A. 81:791-805. [PMID: 4359449].
2. Pontén, J.,Westermark B. (1978).” Properties of Human Malignant Glioma Cells in Vitro”. Medical Biology 56: 184-193.[PMID: 359950].
3. Geng Y.;Kohli L.; Klocke B.J.; Roth K.A.(2010). “Chloroquine-induced autophagic vacuole accumulation and cell death in glioma cells is p53 independent”. Neuro Oncol. 12(5): 473–481.[PMID: 20406898].

LC3 Antibody (APG8A) (P45) - Citations

- Ambient temperature reduction extends lifespan via activating cellular degradation activity in an annual fish (Nothobranchius rachovii).
- Changes in cellular degradation activity in young and old worker honeybees (Apis mellifera).