**LC3 Antibody (APG8)**

*Purified Mouse Monoclonal Antibody (Mab)*

Catalog # AM1800a

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### Specification

**LC3 Antibody (APG8) - Product Information**

<table>
<thead>
<tr>
<th>Application</th>
<th>WB, IF, IHC-P,E</th>
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</thead>
<tbody>
<tr>
<td>Primary Accession</td>
<td><strong>Q9H49Z, Q9GZQ8</strong></td>
</tr>
<tr>
<td>Reactivity</td>
<td>Human, Mouse, Rat</td>
</tr>
<tr>
<td>Host</td>
<td>Mouse</td>
</tr>
<tr>
<td>Clonality</td>
<td>Monoclonal</td>
</tr>
<tr>
<td>Isotype</td>
<td>Mouse IgG1 k</td>
</tr>
<tr>
<td>Clone Names</td>
<td>166AT1234</td>
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</tbody>
</table>

**Target/Specificity**

This LC3 antibody is generated from mouse immunized with a full length recombinant protein of human LC3 (APG8).

**Dilution**

- WB: 1:1000
- IF: 1:200
- IHC-P: 1:50–100

**Format**

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

**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 (APG8) is for research use only and not for use in diagnostic or therapeutic procedures.

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**LC3 Antibody (APG8) - Protein Information**

**Anti-MAP1LC3A Antibody at 1:5000 dilution + recombinant protein Lysates/proteins at 20 μg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 14 kDa Blocking/Dilution buffer: 5% NFDM/TBST.**

**All lanes : Anti-MAP1LC3A Antibody at 1:2000 dilution Lane 1: human brain lysates Lane 2: mouse brain lysates Lane 3: rat brain lysates Lysates/proteins at 20 μg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 14 kDa Blocking/Dilution buffer: 5% NFDM/TBST.**
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**

Immunofluorescent analysis of U251 cells, using LC3 Antibody (APG8) (Cat. #AM1800a). U251 cells (right) were treated with Chloroquine (50 μM, 16h). AM1800a was diluted at 1:25 dilution. Dylight Fluor 488-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody (green). DAPI was used to stain the cell nuclear (blue).

Immunofluorescent analysis of U251 cells, using LC3 Antibody (APG8) (Cat. #AM1800a). U251 cells (right) were treated with Chloroquine (50 μM, 16h). AM1800a was diluted at 1:25 dilution. Dylight Fluor 488-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody (green). DAPI was used to stain the cell nuclear (blue).

Fluorescent image of U251 cells stained with AM1800a LC3 (APG8) 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 AM1800a LC3 (APG8) primary antibody (1:200, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-mouse antibody (green) was used (1:1000, 1 h). 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 anti-LC3 Mab (Cat. #AM1800a) at 8 μg/ml. Lane 1: Y79 (soluble fraction of cell extract); Lane 2: 293 transfected with human LC3 (whole cell extract).

Western blot analysis of anti-LC3 Mab (Cat. #AM1800a) Hela cell lysates, which were treated with rapamycin or bafilomycin overnight. Data courtesy of Dr. David Rubinsztein, Cambridge Institute for Medical Research.
10X (lower panel) and 20X (upper panel) immunohistochemistry images from muscle tissue of a diseased mouse off Dox after 5 weeks on regular food. Several fibers that have autophagic vesicles throughout are visible. Primary antibody used is Cat# AM1800a. Data courtesy of Dr. Christy Caudill, Cincinnati Children's Hospital Medical Center.

**LC3 Antibody (APG8) - Background**

MAP1A and MAP1B are microtubule-associated proteins which mediate the physical interactions between microtubules and components of the cytoskeleton. MAP1A and MAP1B each consist of a heavy chain subunit and multiple light chain subunits. The protein encoded by this gene is one of the light chain subunits and can associate with either MAP1A or MAP1B. Two transcript variants encoding different isoforms have been found for this gene.

**LC3 Antibody (APG8) - References**

References for protein:

References for U251 cell line:
LC3 Antibody (APG8) - Citations

- Deletion of the BH3-only protein Noxa alters electrographic seizures but does not protect against hippocampal damage after status epilepticus in mice.
- Cross-talk between lipid and protein carbonylation in a dynamic cardiomyocyte model of mild nitrooxidative stress.
- Tamoxifen induces cytotoxic autophagy in Glioblastoma.
- Lapatinib induces autophagic cell death and differentiation in acute myeloblastic leukemia.
- Male meiotic cytokinesis requires ceramide synthase 3-dependent sphingolipids with unique membrane anchors.
- GMI, an immunomodulatory protein from Ganoderma microsporum, potentiates cisplatin-induced apoptosis via autophagy in lung cancer cells.
- CD40 ligand exhibits a direct antiviral effect on Herpes Simplex Virus type-1 infection via a PI3K-dependent, autophagy-independent mechanism.
- Immunohistochemical study of the autophagy marker microtubule-associated protein 1 light chain 3 in normal and steatotic human livers.
- The effect of RNAi silencing of p62 using an osmotic polysorbitol transporter on autophagy and tumorigenesis in lungs of K-ras(LA1) mice.
- Production of interferon-α by human immunodeficiency virus type 1 in human plasmacytoid dendritic cells is dependent on induction of autophagy.
- Induction of autophagy is essential for monocyte-macrophage differentiation.
- Beclin 1 knockdown inhibits autophagic activation and prevents the secondary neurodegenerative damage in the ipsilateral thalamus following focal cerebral infarction.
- Mouse knock-out of IOP1 protein reveals its essential role in mammalian cytosolic iron-sulfur protein biogenesis.
- Characterization of Puma-dependent and Puma-independent neuronal cell death pathways following prolonged proteasomal inhibition.
- The unfolded protein response protects human tumor cells during hypoxia through regulation of the autophagy genes MAP1LC3B and ATG5.
- The Rac1/MKK7/JNK pathway signals upregulation of Atg5 and subsequent autophagic cell death in response to oncogenic Ras.