

Purified anti-LC3 Antibody

Catalog# / Size	848801 / 25 µg 848802 / 100 µg
Clone	A15143K
Regulatory Status	RUO
Other Names	Microtubule-associated proteins 1A/1B light chain 3B, MAP1A/MAP1B LC3 B, MAP1A/1B light chain 3 B, MAP1 light chain 3-like protein 2, autophagy-related ubiquitin-like modifier LC3 B
Isotype	Mouse IgG2b, κ
Description	Microtubule-associated protein light chain 3, commonly known as LC3, is a central protein in the autophagy pathway and functions in autophagosome biogenesis. LC3 is a member of the ATG8 protein family and expressed as three isoforms: LC3A (MAP1LC3A), LC3B (MAP1LC3B), and LC3C (MAP1LC3C). Newly synthesized LC3 is hydrolyzed by the cysteine protease ATG4B to produce the active cytosolic form termed LC3I. Through a series of reactions involving other ATGs, LC3I becomes attached to phosphatidylethanolamine. This lipid modified form is termed LC3II, and is involved in autophagosomes membrane expansion and fusion events. LC3 is widely used as a marker for autophagosomes. Defects in autophagy machinery have been associated with multiples diseases including neurodegenerative disorders.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	A synthetic peptide corresponding to N-terminal region of human LC3B protein (between amino acid residues 1-50) conjugated to KLH.
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	IHC-P - Quality tested ICC - Verified WB - Reported in the literature, not verified in house
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 1.0 - 5.0 µg/mL is suggested. For immunocytochemistry, a concentration range of 0.5 - 1.0 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This antibody cross-reacts with LC3A and LC3B isoforms. Additional reported applications (for the relevant formats) include: western blotting
Product Citations	1. Jiang W, <i>et al.</i> 2022. Front Physiol. 13:949737. PubMed 2. Al-Ramahi I, <i>et al.</i> 2018. Cell Syst. 7:28. PubMed 3. Stykel MG, <i>et al.</i> 2021. Cell Reports. 35(6):109099. PubMed
RRID	AB_2650713 (BioLegend Cat. No. 848801) AB_2650714 (BioLegend Cat. No. 848802)

Antigen Details

Structure	LC3 is a 125 amino acid protein with a molecular mass of 14.7 kD.
Distribution	Tissue distribution: brain, heart, skeletal muscle, blood and testis. Cellular distribution: cytosol, mitochondria, cytoskeleton, endoplasmic reticulum, cytoplasmic vesicles, autophagosome.
Function	LC3 proteins play a key role in the selective recruitment of autophagic cargoes into autophagosomes, and serve as docking sites for adaptor proteins.
Biology Area	Cell Biology, Neurodegeneration, Neuroscience, Neuroscience Cell Markers, Protein Trafficking and Clearance
Molecular Family	Autophagosome Markers
Antigen References	1. Lee J, <i>et al.</i> 2012. <i>Biochem. J.</i> 441(2):523. PubMed 2. Martini-Stoica H, <i>et al.</i> 2016. <i>Trends Neurosci.</i> 39(4)221. PubMed
Gene ID	81631

Related Protocols

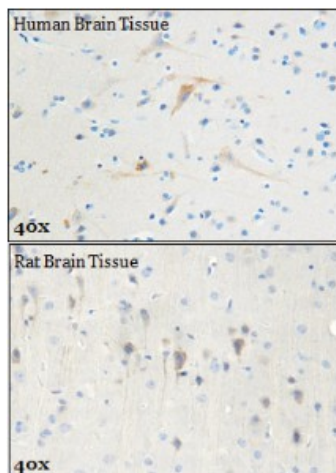
[Immunocytochemistry Staining Protocol](#)

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

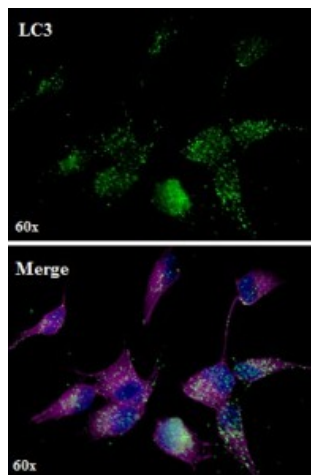
Other Formats

Purified anti-LC3

Product Data



IHC staining of purified anti-LC3 antibody (clone A15143K) on formalin-fixed paraffin-embedded human and rat brain tissues. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissues were incubated with the primary antibody at 5 µg/mL overnight at 4°C. BioLegend's Ultra-Streptavidin (USA) HRP Detection Kit (Multi-Species, DAB, Cat. No. 929901) was used for detection followed by hematoxylin counterstaining, according to the protocol provided.



ICC staining of purified anti-LC3 antibody (clone A15143K) on SH-SY5Y neuroblastoma cells. The cells were fixed with 4% PFA, permeabilized with a buffer containing 0.1% Triton X-100 and 0.25% BSA, and blocked with 2% normal goat serum and 0.02% BSA. The cells were then incubated with 1 µg/mL of the primary antibody for three hours at room temperature, followed by 1 µg/mL of Alexa Fluor® 488 goat anti-mouse IgG antibody (Cat. No. 405319) (green). Cells were then incubated with 1 µg/mL of Alexa Fluor® 647 anti-Tubulin β 3 (TUBB3) antibody (Cat. No. 801210) (pink) overnight at 4°C. Nuclei were stained with Hoechst 33342 (blue) at 5 µg/mL for 10 minutes at room temperature. Images were captured with

a 60X objective.

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