Human LC3A Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2312D
Catalog Number: MAB9915

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human LC3A in direct ELISA.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2312D
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Synthetic peptide containing human LC3A peptide Accession # Q9H492
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

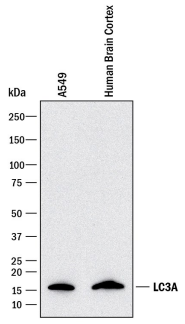
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	3-25 µg/mL	See Below

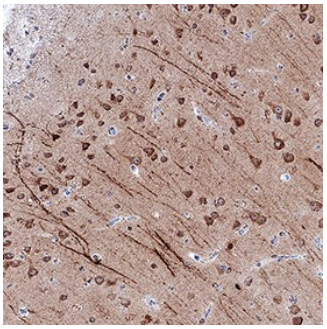
DATA

Western Blot



Detection of Human LC3A by Western Blot. Western blot shows lysates of A549 human lung carcinoma cell line and human brain (cortex) tissue. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Human LC3A Monoclonal Antibody (Catalog # MAB9915) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for LC3A at approximately 16 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



LC3A in Human Brain. LC3A was detected in immersion fixed paraffin-embedded sections of human brain (frontal cortex) using Rabbit Anti-Human LC3A Monoclonal Antibody (Catalog # MAB9915) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Rabbit IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC003). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human Microtubule-associated Protein (MAP) Light Chain 3 (LC3) A is a121 amino acid (aa) protein with a predicted molecular weight of 14 kDa. It is a member of the LC3 subfamily of Autophagy-related 8 (Atg8) proteins (1). The LC3 subfamily also includes LC3B andLC3C. LC3 exhibits 100% aa sequence identity with its mouse and rat orthologs, and is orthologous to the yeast autophagy-related protein Atg8. Atg8 family members show structural similarity with Ubiquitin, but lack aa sequence similarity. LC3 was originally described as part is part of a complex that includes heavy and light chains comprising the MAP1 family of microtubule regulatory proteins (3). However, LC3 has gained attention for MAP1-independent functions in autophagy. LC3 utilizes a ubiquitin-like conjugation system that includes E1-, E2-, and E3-like enzymes to covalently attach phosphatidylethanolamine (PE) to its C-terminus, incorporating it into the phagophore membrane during the early stages of autophagasome formation (4). Recruitment of LC3 to the phagophore may promote membrane elongation (4,5). It may also be involved in cargo recruitment to autophagosomes (1). LC3 is often used as a marker of autophagy.

References:

1. Shpilka, T. *et al.* (2011) Genome Biol. **12**:226.
2. He, H. *et al.* (2003) J. Biol. Chem. **278**:29278.
3. Kuznetsov, S.A. & V.I. Gelfand (1987) FEBS Let. **212**:145.
4. Weidberg, H. *et al.* (2011) Ann Rev. Biochem. **80**:125.
5. Weidberg, H. *et al.* (2010) EMBO J. **29**:1792.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449