Human LC3B Alexa Fluor® 647-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 1251A
Catalog Number: IC9390R
100 Tests

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human LC3B in flow cytometry.
Source	Recombinant Monoclonal Rabbit IgG Clone # 1251A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Human LC3B synthetic peptide Accession # Q9GZQ8
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

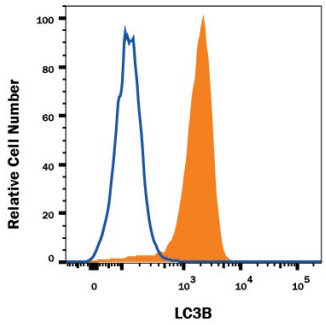
APPLICATIONS

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
Intracellular Staining by Flow Cytometry	5 µL/10^6 cells	See Below

DATA

Intracellular Staining by Flow Cytometry



Detection of LC3B in HeLa Human Cell Line by Flow Cytometry. HeLa human cervical epithelial carcinoma cell line either treated with 50 µM chloroquine for 24 hours (filled histogram) or untreated (open histogram) was stained with Rabbit Anti-Human LC3B Alexa Fluor® 647-conjugated Monoclonal Antibody (Catalog # IC9390R). To facilitate intracellular staining, cells were fixed and permeabilized with FlowX FoxP3 Fixation & Permeabilization Buffer Kit (Catalog # FC012). View our protocol for Staining Intracellular Molecules.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

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.

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