

**LC3C (D3O6P) Rabbit mAb**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	14	Rabbit IgG	#Q9BXW4	440738

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

**Specificity/Sensitivity**

LC3C (D3O6P) Rabbit mAb recognizes endogenous levels of total LC3C protein. This antibody does not cross react with other LC3 isoforms.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human LC3C protein.

**Background**

Autophagy is a catabolic process for the autophagosomal-lysosomal degradation of bulk cytoplasmic contents (1,2). Autophagy is generally activated by conditions of nutrient deprivation, but it has also been associated with a number of physiological processes including development, differentiation, neurodegenerative diseases, infection, and cancer (3). Autophagy marker Light Chain 3 (LC3) was originally identified as a subunit of microtubule-associated proteins 1A and 1B (termed MAP1LC3) (4) and subsequently found to contain similarity to the yeast protein Apg8/Aut7/Cvt5 critical for autophagy (5). Three human LC3 isoforms (LC3A, LC3B, and LC3C) undergo posttranslational modifications during autophagy (6-9). Cleavage of LC3 at the carboxy terminus immediately following synthesis yields the cytosolic LC3-I form. During autophagy, LC3-I is converted to LC3-II through lipidation by a ubiquitin-like system involving Atg7 and Atg3 that allows for LC3 to become associated with autophagic vesicles (6-10). The presence of LC3 in autophagosomes and the conversion of LC3 to the lower migrating form, LC3-II, have been used as indicators of autophagy (11).

In general, expression of LC3C protein is lower than the other LC3 isoforms, with the highest LC3C expression observed in lung, placenta, and ovary (7).

**Background References**

1. Reggiori, F. and Klionsky, D.J. (2002) *Eukaryot. Cell* 1, 11-21.
2. Codogno, P. and Meijer, A.J. (2005) *Cell Death Differ.* 12 Suppl 2, 1509-18.
3. Levine, B. and Yuan, J. (2005) *J. Clin. Invest.* 115, 2679-88.
4. Mann, S.S. and Hammarback, J.A. (1994) *J. Biol. Chem.* 269, 11492-97.
5. Lang, T. et al. (1998) *EMBO J.* 17, 3597-607.
6. Kabeya, Y. et al. (2000) *EMBO J.* 19, 5720-28.
7. He, H. et al. (2003) *J. Biol. Chem.* 278, 29278-87.
8. Tanida, I. et al. (2004) *J. Biol. Chem.* 279, 47704-10.
9. Wu, J. et al. (2006) *Biochem. Biophys. Res. Commun.* 339, 437-42.
10. Ichimura, Y. et al. (2000) *Nature* 408, 488-92.
11. Kabeya, Y. et al. (2004) *J. Cell Sci.* 117, 2805-12.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human

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