

Store at -20C  
#3868**LC3B (D11) XP<sup>®</sup> Rabbit mAb**

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

|   |                         |                                   |                            |                                      |                               |                                 |
|---|-------------------------|-----------------------------------|----------------------------|--------------------------------------|-------------------------------|---------------------------------|
| <b>Applications:</b><br>W, IF-IC, FC-FP | <b>Reactivity:</b><br>H | <b>Sensitivity:</b><br>Endogenous | <b>MW (kDa):</b><br>14, 16 | <b>Source/Isotype:</b><br>Rabbit IgG | <b>UniProt ID:</b><br>#Q9GZQ8 | <b>Entrez-Gene Id:</b><br>81631 |
|---|-------------------------|-----------------------------------|----------------------------|--------------------------------------|-------------------------------|---------------------------------|

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

Western Blotting  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

**Dilution**

1:1000  
1:1600 - 1:3200  
1:200

**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.

For a carrier free (BSA and azide free) version of this product see product #57762.

**Specificity/Sensitivity**

LC3B (D11) XP<sup>®</sup> Rabbit mAb detects endogenous levels of total LC3B protein. Cross-reactivity may occur with other LC3 isoforms. Stronger reactivity is observed with the type II form of LC3B.

**Species predicted to react based on 100% sequence homology**

Mouse, Rat, Monkey, Bovine, Pig

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of LC3B.

**Background**

Autophagy is a catabolic process for the autophagosomic-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).

**Background References**

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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<sup>®</sup> 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

## Cross-Reactivity Key

H: Human

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