

Store at
-20C
#83506**LC3B (E5Q2K) Mouse mAb**
Orders: 877-616-CELL (2355)
orders@cellsignal.com

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Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, IF-F, IF-IC, FC-FP	H M R	Endogenous	14, 16	Mouse IgG2b	#Q9GZQ8	81631

Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunohistochemistry (Paraffin)
Immunofluorescence (Frozen)
Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)

Dilution

1:1000
1:100
1:50 - 1:200
1:50 - 1:200
1:200 - 1:800
1:100 - 1:400

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 #20371.

Specificity/Sensitivity

LC3B (E5Q2K) Mouse mAb recognizes endogenous levels of total LC3B protein. This antibody detects both type I and type II forms of LC3B. Cross reactivity was not detected with other family members.

Source / Purification

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

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

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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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