

LC3B (D11) XP[®] Rabbit mAb (Biotinylated)



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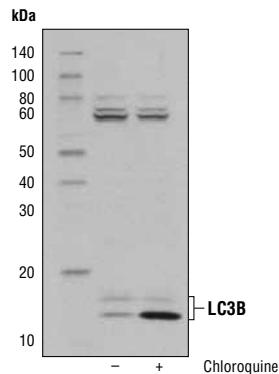
Applications W Endogenous	Species Cross-Reactivity* H, M, R, (Mk, B, Pg)	Molecular Wt. 14, 16 kDa	Isotype Rabbit IgG
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Description: This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated LC3B (D11) XP[®] Rabbit mAb #3868.

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 post-translational 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).

Specificity/Sensitivity: LC3B (D11) XP[®] Rabbit mAb (Biotinylated) 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. Weaker reactivity is observed with rodent LC3B.

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



Western blot analysis of HeLa cell extracts, untreated (-) or chloroquine-treated (50 μ M; +), using LC3B (D11) XP[®] Rabbit mAb (Biotinylated).

Entrez-Gene ID #81631
Swiss-Prot Acc. #Q9GZQ8

Storage: Supplied in 136 mM NaCl, 2.6 mM KCl, 12 mM sodium phosphate (pH 7.4) dibasic, 2 mg/ml BSA, and 50% glycerol. Store at -20°C. Do not aliquot the antibodies.

***Species cross-reactivity is determined by western blot using the unconjugated antibody.**

Biotinylated antibodies are designed to be detected using streptavidin or anti-biotin antibody conjugates.

Recommended Antibody Dilutions:

Western blotting 1:1000

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

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, 1509-1518.
- (3) Levine, B. and Yuan, J. (2005) *J. Clin. Invest.* 115, 2679-2688.
- (4) Mann, S.S. and Hammarback, J.A. (1994) *J. Biol. Chem.* 269, 11492-11497.
- (5) Lang, T. et al. (1998) *EMBO J.* 17, 3597-3607.
- (6) Kabeya, Y. et al. (2000) *EMBO J.* 19, 5720-5728.
- (7) He, H. et al. (2003) *J. Biol. Chem.* 278, 29278-29287.
- (8) Tanida, I. et al. (2004) *J. Biol. Chem.* 279, 47704-47710.
- (9) Wu, J. et al. (2006) *Biochem. Biophys. Res. Commun.* 339, 437-442.
- (10) Ichimura, Y. et al. (2000) *Nature* 408, 488-492.
- (11) Kabeya, Y. et al. (2004) *J. Cell Sci.* 117, 2805-2812.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA—Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.