

#4108 Store at -20°C

LC3A/B Antibody

✓ 100 µl
(10 western blots)



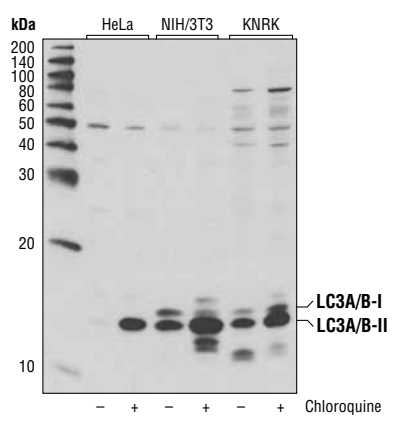
Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

rev. 01/17/12

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IF-IC, F Endogenous	H, M, R, (Mk, C, X, Z, Dg)	14, 16 kDa	Rabbit**

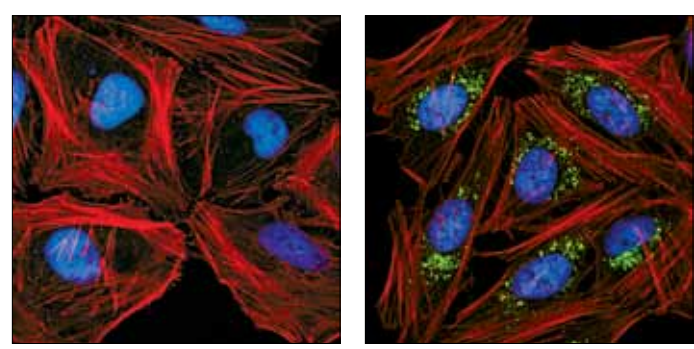
Background: Autophagy is a catabolic process for the autophagosomal-lysosomal degradation of bulk cytoplasmic contents (1,2). Autophagy is generally activated by conditions of nutrient deprivation but has also been associated with a number of physiological processes including development, differentiation, 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).



Western blot analysis of extracts from various cell lines, untreated or treated with chloroquine (50 µM, overnight) using LC3A/B Antibody.

Specificity/Sensitivity: LC3A/B Antibody detects endogenous levels of total LC3A and LC3B proteins. Cross-reactivity may exist with LC3C. Stronger reactivity is observed with the type II form of LC3A/B.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly40 of LC3A/B. Antibodies are purified by protein A and peptide affinity chromatography.



Confocal immunofluorescent analysis of HeLa cells, untreated (left) or chloroquine-treated (right), using LC3A/B Antibody (green). Actin filaments were labeled using DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

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.

Entrez-Gene ID #84557
Swiss-Prot Acc. #Q9H492

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

*Species cross-reactivity is determined by western blot.

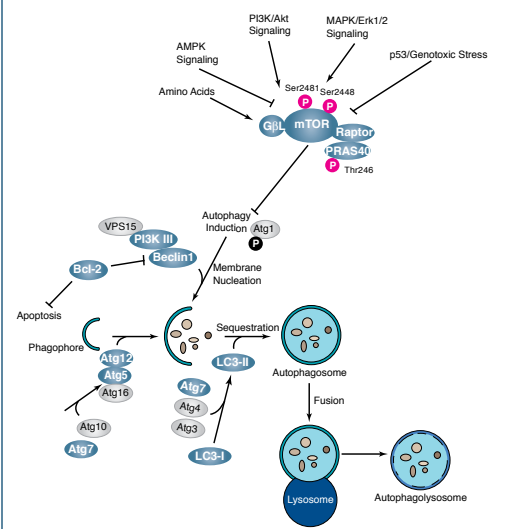
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunofluorescence (IF-IC)	1:200
IF Protocol:	Methanol Permeabilization required
Flow Cytometry	1:50

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

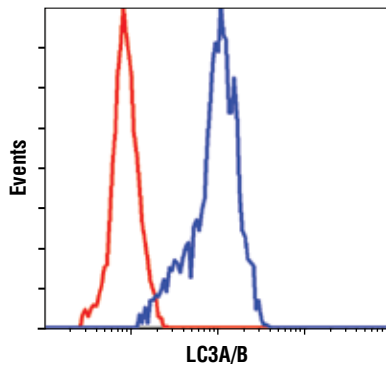
Please visit www.cellsignal.com for a complete listing of recommended companion products.



DRAQ5® is a registered trademark of Biostatus Limited.

© 2012 Cell Signaling Technology, Inc. Cell Signaling Technology® is a trademark of Cell Signaling Technology, Inc.

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.



Flow cytometric analysis of HeLa cells using LC3A/B Antibody (blue) compared to a nonspecific negative control antibody (red).

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.