#11972 Store at -20°C

LC3 Control Cell Extracts

☑ 100 µl
(10 western blots)

Cell Signaling TECHNOLOGY®

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rev. 11/17/17

For Research Use Only. Not For Use In Diagnostic Procedures.

Product Includes	Product #	Quantity
LC3 Control Cell Extracts (HeLa untreated)	73774	100 ul
LC3 Control Cell Extracts (HeLa +Chloroquine)	96900	100 ul

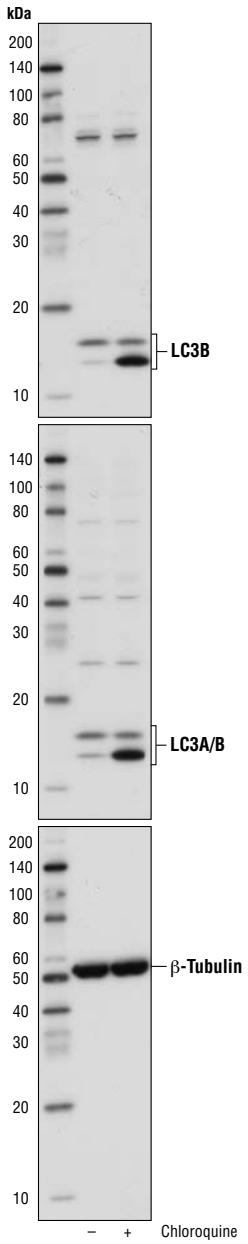
Description: *LC3 Control Cell Extracts (HeLa untreated):* Total cell extracts from HeLa cells serve as a negative control. Supplied in SDS sample buffer.

LC3 Control Cell Extracts (HeLa +Chloroquine): Total cell extracts from HeLa cells treated with 50 µM chloroquine overnight serve as a positive control. Supplied in SDS sample buffer.

This lysate pair is produced as a control for western blotting of LC3A and LC3B. LC3C cannot be detected in these lysates.

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 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).

Directions for Use: Boil for 3 minutes prior to use. Load 10 µl of untreated and chloroquine treated LC3 Control Cell Extracts per lane.



Western blot analysis of LC3 Control Cell Extracts from HeLa cells, untreated (-) or chloroquine-treated (50 µM, overnight; +), using LC3B (D11) XP® Rabbit mAb #3868 (upper), LC3A/B Antibody #4108 (middle), or β-Tubulin (9F3) Rabbit mAb #2128 (lower).

Storage: *Supplied in SDS Sample Buffer:* 62.5 mM Tris- HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red. *Store at –20°C, or at –80°C for long-term storage.*

For product specific protocols and a complete listing of recommended companion products, please see the product web page at www.cellsignal.com.

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.

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.