

#4773 Store at -20°C

ULK1 (R600) Antibody



✓ 100 µl
(10 western blots)

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rev. 02/18/10

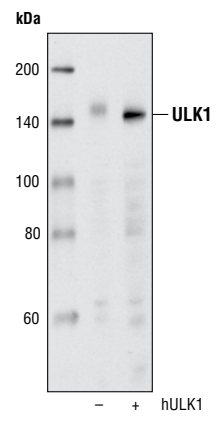
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications W Endogenous	Species Cross-Reactivity* H, Mk	Molecular Wt. 150 kDa	Source Rabbit**
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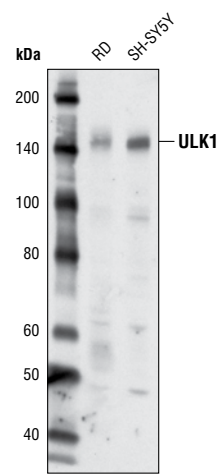
Background: Two related serine/threonine kinases, UNC-51-like kinase -1 and -2 (ULK1, ULK2), were discovered as mammalian homologs of the *C. elegans* gene UNC-51 in which mutants exhibited abnormal axonal extension and growth (1-4). Both proteins are widely expressed and contain an amino terminal kinase domain followed by a central proline/serine rich domain and a highly conserved C-terminal domain (CTD). The roles of ULK1 and ULK2 in axon growth have been also demonstrated and has been linked to studies showing that the kinases are localized to neuronal growth cones and are involved in endocytosis of critical growth factors such as NGF (5). Yeast two-hybrid studies found ULK1/2 associated with modulators of the endocytic pathway, SynGap and Syntenin (6). Structural similarity of ULK1/2 has also been recognized with the yeast autophagy protein Atg1/Apg1 (7). Knockdown experiments using siRNA demonstrated that ULK1 is essential for autophagy (8), a catabolic process for the degradation of bulk cytoplasmic contents (9,10). It appears that Atg1/ULK1 can act as a convergence point for multiple signals that control autophagy (11), and can bind to several autophagy-related (Atg) proteins, regulating phosphorylation states and protein trafficking (12-16).

Specificity/Sensitivity: ULK1 (R600) Antibody detects endogenous levels of total ULK1 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg600 of human ULK1. Antibodies were purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from COS cells, untransfected (-) or transfected with a construct overexpressing human ULK1 (+), using ULK1 (R600) Antibody.



Western blot analysis of extracts from RD and SH-SY5Y cells using ULK1 (R600) Antibody.

Entrez-Gene ID #8408
Swiss-Prot Acc. #O75385

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

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.

Background References:

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- (5) Zhou, X. et al. (2007) *Proc Natl Acad Sci USA* 104, 5842-7.
- (6) Tomoda, T. et al. (2004) *Genes Dev* 18, 541-58.
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- (8) Chan, E.Y. et al. (2007) *J Biol Chem* 282, 25464-74.
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- (10) Codogno, P. and Meijer, A.J. (2005) *Cell Death Differ* 12 Suppl 2, 1509-18.
- (11) Stephan, J.S. and Herman, P.K. *Autophagy* 2, 146-8.
- (12) Okazaki, N. et al. (2000) *Brain Res Mol Brain Res* 85, 1-12.
- (13) Young, A.R. et al. (2006) *J Cell Sci* 119, 3888-900.
- (14) Kamada, Y. et al. (2000) *J Cell Biol* 150, 1507-13.
- (15) Lee, S.B. et al. (2007) *EMBO Rep* 8, 360-5.
- (16) Hara, T. et al. (2008) *J Cell Biol* 181, 497-510.

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.