

ULK1 (H-240): sc-33182

BACKGROUND

ULK1 and ULK2 (for UNC-51-like kinase) encode similar amino-terminal serine/threonine kinase domains, a proline/serine-rich (PS) domain, and a species conserved carboxyl-terminal domain. Both share homology with the UNC-51 kinase from *Caenorhabditis elegans* and the APG1 kinase in yeast, which are involved in axonal extension and growth, and autophagy, respectively. ULK1 maps to human chromosome 12q24.33 and is ubiquitously expressed. ULK2, also widely expressed, maps to mouse chromosome 11B1.3 and is expected to have a similar molecular weight as ULK1 in human. ULK1 and ULK2 are thought to auto-phosphorylate the PS domain *in vitro*, and the significant homology among vertebrates suggest that ULK1 and ULK2 are involved in the regulation of fundamental biological processes.

REFERENCES

- Ogura, K., et al. 1994. *Caenorhabditis elegans* UNC-51 gene required for axonal elongation encodes a novel serine/threonine kinase. *Genes Dev.* 8: 2389-2400.
- Kuroyanagi, H., et al. 1998. Human ULK1, a novel serine/ threonine kinase related to UNC-51 kinase of *Caenorhabditis elegans*: cDNA cloning, expression and chromosomal assignment. *Genomics* 51: 76-85.

CHROMOSOMAL LOCATION

Genetic locus: ULK1 (human) mapping to 12q24.33; Ulk1 (mouse) mapping to 5 F.

SOURCE

ULK1 (H-240) is a rabbit polyclonal antibody raised against amino acids 511-750 mapping within an internal region of ULK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ULK1 (H-240) is recommended for detection of ULK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). ULK1 (H-240) is also recommended for detection of ULK1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ULK1 siRNA (h): sc-44182, ULK1 siRNA (m): sc-44849, ULK1 shRNA Plasmid (h): sc-44182-SH, ULK1 shRNA Plasmid (m): sc-44849-SH, ULK1 shRNA (h) Lentiviral Particles: sc-44182-V and ULK1 shRNA (m) Lentiviral Particles: sc-44849-V.

Molecular Weight (predicted) of ULK1: 113 kDa.

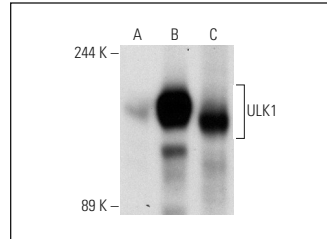
Molecular Weight (observed) of ULK1: 161 kDa.

Positive Controls: ULK1 (h): 293T Lysate: sc-158046 or Jurkat whole cell lysate: sc-2204.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ULK1 (H-240): sc-33182. Western blot analysis of ULK1 expression in non-transfected 293T: sc-117752 (A), human ULK1 transfected 293T: sc-158046 (B) and Jurkat (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Chan, E.Y., et al. 2009. Kinase-inactivated ULK proteins inhibit autophagy via their conserved C-terminal domains using an Atg13-independent mechanism. *Mol. Cell. Biol.* 29: 157-171.
- Hosokawa, N., et al. 2009. Nutrient-dependent mTORC1 association with the ULK1-Atg13-FIP200 complex required for autophagy. *Mol. Biol. Cell* 20: 1981-1991.
- Jung, C.H., et al. 2009. ULK-Atg13-FIP200 complexes mediate mTOR signaling to the autophagy machinery. *Mol. Biol. Cell* 20: 1992-2003.
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- Jung, C.H., et al. 2013. Anthricin isolated from *Anthriscus sylvestris* (L.) hoffm. inhibits the growth of breast cancer cells by inhibiting Akt/mTOR signaling, and its apoptotic effects are enhanced by autophagy inhibition. *Evid. Based Complement. Alternat. Med.* 2013: 385219.
- Kalie, E., et al. 2013. ULK1 regulates melanin levels in MNT-1 cells independently of mTORC1. *PLoS ONE* 8: e75313.
- Desantis, A., et al. 2015. Che-1-induced inhibition of mTOR pathway enables stress-induced autophagy. *EMBO J.* 34: 1214-1230.

RESEARCH USE

For research use only, not for use in diagnostic procedures.


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Try **ULK1 (F-4): sc-390904**, our highly recommended monoclonal alternative to ULK1 (H-240). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **ULK1 (F-4): sc-390904**.