

# ULK1 Antibody

Rabbit mAb

Catalog # AP91332

## Product Information

|                          |  |
|--------------------------|--|
| <b>Application</b>       | WB, IHC, IF, ICC, IHF  |
| <b>Primary Accession</b> | <a href="#">O75385</a>   |
| <b>Reactivity</b>        | Rat, Human, Mouse  |
| <b>Clonality</b>         | Monoclonal   |
| <b>Other Names</b>       | Serine/threonine-protein kinase ULK1; Autophagy-related protein 1 homolog; ATG1; Unc-51-like kinase 1; ULK1; |
| <b>Isotype</b>           | Rabbit IgG   |
| <b>Host</b>              | Rabbit   |
| <b>Calculated MW</b>     | 112631   |

## Additional Information

|                                     |  |
|-------------------------------------|--|
| <b>Dilution</b>                     | WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200   |
| <b>Purification</b>                 | Affinity-chromatography  |
| <b>Immunogen</b>                    | A synthesized peptide derived from human ULK1  |
| <b>Description</b>                  | Act as a convergence point for multiple signals that control autophagy, and can bind to several autophagy-related (Atg) proteins, regulating phosphorylation states and protein trafficking. AMPK, activated during low nutrient conditions, directly phosphorylates ULK1 at multiple sites including Ser317, Ser555, and Ser777. Conversely, mTOR, which is a regulator of cell growth and an inhibitor of autophagy, phosphorylates ULK1 at Ser757 and disrupts the interaction between ULK1 and AMPK. |
| <b>Storage Condition and Buffer</b> | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.  |

## Protein Information

|                 |  |
|-----------------|--|
| <b>Name</b>     | ULK1 {ECO:0000303 PubMed:9693035, ECO:0000312 HGNC:HGNC:12558}   |
| <b>Function</b> | Serine/threonine-protein kinase involved in autophagy in response to starvation (PubMed: <a href="#">18936157</a> , PubMed: <a href="#">21460634</a> , PubMed: <a href="#">21795849</a> , PubMed: <a href="#">23524951</a> , PubMed: <a href="#">25040165</a> , PubMed: <a href="#">29487085</a> , PubMed: <a href="#">31123703</a> ). Acts upstream of phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes (PubMed: <a href="#">18936157</a> , PubMed: <a href="#">21460634</a> , PubMed: <a href="#">21795849</a> , PubMed: <a href="#">25040165</a> ). Part of regulatory feedback loops in autophagy: acts both as a downstream effector and negative regulator of mammalian target of rapamycin complex 1 (mTORC1) via interaction with RPTOR (PubMed: <a href="#">21795849</a> ). Activated via phosphorylation by AMPK and also acts as a regulator of AMPK by mediating phosphorylation of AMPK subunits PRKAA1, |

PRKAB2 and PRKAG1, leading to negatively regulate AMPK activity (PubMed:[21460634](#)). May phosphorylate ATG13/KIAA0652 and RPTOR; however such data need additional evidences (PubMed:[18936157](#)). Plays a role early in neuronal differentiation and is required for granule cell axon formation (PubMed:[11146101](#)). Also phosphorylates SESN2 and SQSTM1 to regulate autophagy (PubMed:[25040165](#), PubMed:[37306101](#)). Phosphorylates FLCN, promoting autophagy (PubMed:[25126726](#)). Phosphorylates AMBRA1 in response to autophagy induction, releasing AMBRA1 from the cytoskeletal docking site to induce autophagosome nucleation (PubMed:[20921139](#)). Phosphorylates ATG4B, leading to inhibit autophagy by decreasing both proteolytic activation and delipidation activities of ATG4B (PubMed:[28821708](#)).

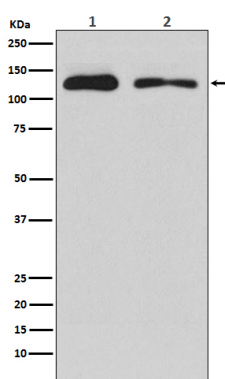
## Cellular Location

Cytoplasm, cytosol. Preautophagosomal structure. Note=Under starvation conditions, is localized to punctate structures primarily representing the isolation membrane that sequesters a portion of the cytoplasm resulting in the formation of an autophagosome.

## Tissue Location

Ubiquitously expressed. Detected in the following adult tissues: skeletal muscle, heart, pancreas, brain, placenta, liver, kidney, and lung

## Images



Western blot analysis of ULK1 expression in (1) HEK293 cell lysate; (2) PC12 cell lysate.

Image not found : 202311/AP91332-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human heart, using ULK1 Antibody.

Image not found : 202311/AP91332-IF.jpg

Immunofluorescent analysis of 293 cells, using ULK1 Antibody .

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