

# Phospho-ULK1(S317) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)  
Catalog # AP3803a

## Product Information

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<b>Application</b>	DB, E
<b>Primary Accession</b>	<a href="#">O75385</a>
<b>Other Accession</b>	<a href="#">NP_003556.1</a>
<b>Reactivity</b>	Human
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB40755
<b>Calculated MW</b>	112631

## Additional Information

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<b>Gene ID</b>	8408
<b>Other Names</b>	Serine/threonine-protein kinase ULK1, Autophagy-related protein 1 homolog, ATG1, hATG1, Unc-51-like kinase 1, ULK1, KIAA0722
<b>Target/Specificity</b>	This ULK1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S317 of human ULK1.
<b>Dilution</b>	DB~1:500 E~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	Phospho-ULK1(S317) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<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:[18936157](#), PubMed:[21460634](#), PubMed:[21795849](#), PubMed:[25040165](#), PubMed:[39384743](#)). 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:[21795849](#)). 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

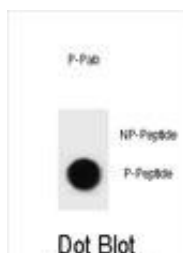
## Background

Involved in autophagy. Required for autophagosome formation (By similarity). Target of the TOR kinase signaling pathway that regulates autophagy through the control of phosphorylation status of ATG13/KIAA0652 and ULK1, and the regulation of the ATG13-ULK1-RB1CC1 complex (By similarity). Phosphorylates ATG13/KIAA0652. Involved in axon growth (By similarity). Plays an essential role in neurite extension of cerebellar granule cells (By similarity).

## References

Mercer, C.A., et al. *Autophagy* 5(5):649-662(2009) Ganley, I.G., et al. *J. Biol. Chem.* 284(18):12297-12305(2009) Jung, C.H., et al. *Mol. Biol. Cell* 20(7):1992-2003(2009) Hosokawa, N., et al. *Mol. Biol. Cell* 20(7):1981-1991(2009) Chan, E.Y. *Sci Signal* 2 (84), PE51 (2009) :

## Images



Dot blot analysis of ULK1 Antibody (Phospho S317) Phospho-specific Pab (Cat. #AP3803a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.6ug per ml.

## Citations

- [The multi-kinase inhibitor lenvatinib interacts with the HDAC inhibitor entinostat to kill liver cancer cells](#)
- [GZ17-6.02 and Doxorubicin Interact to Kill Sarcoma Cells via Autophagy and Death Receptor Signaling](#)
- [Enhanced signaling via ERBB3/PI3K plays a compensatory survival role in pancreatic tumor cells exposed to \[neratinib + valproate\]](#)
- [\(Curcumin+sildenafil\) enhances the efficacy of 5FU and anti-PD1 therapies in vivo](#)
- [Neratinib decreases pro-survival responses of \[sorafenib + vorinostat\] in pancreatic cancer](#)
- [Fingolimod Augments Monomethylfumarate Killing of GBM Cells](#)
- [GZ17-6.02 initiates DNA damage causing autophagosome-dependent HDAC degradation resulting in enhanced anti-PD1 checkpoint inhibitory antibody efficacy](#)
- [GZ17-6.02 Interacts With \[MEK1/2 and B-RAF Inhibitors\] to Kill Melanoma Cells](#)

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