

Phospho-ULK1(S467) Blocking Peptide
Synthetic peptide
Catalog # BP3867a**Specification**

Phospho-ULK1(S467) Blocking Peptide - Product Information

Primary Accession [O75385](#)
Other Accession [NP_003556.1](#)

Phospho-ULK1(S467) Blocking Peptide - Additional Information

Gene ID 8408

Other Names

Serine/threonine-protein kinase ULK1, Autophagy-related protein 1 homolog, ATG1, hATG1, Unc-51-like kinase 1, ULK1, KIAA0722

Target/Specificity

The synthetic peptide sequence is selected from aa 463-475 of HUMAN ULK1

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Phospho-ULK1(S467) Blocking Peptide - Protein Information

Name ULK1 {ECO:0000303|PubMed:9693035, ECO:0000312|HGNC:HGNC:12558}

Function

Serine/threonine-protein kinase involved in autophagy in response to starvation (PubMed:18936157, PubMed:21460634, PubMed:21795849, PubMed:23524951, PubMed:25040165, PubMed:31123703, PubMed:29487085). 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).

target="_blank">25040165). 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

Phospho-ULK1(S467) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

Phospho-ULK1(S467) Blocking Peptide - Images

Phospho-ULK1(S467) Blocking Peptide - Background

ULK1 is 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).

Phospho-ULK1(S467) Blocking Peptide - 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) :