

Phospho-ULK1(S556) Antibody
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3804a

Specification

Phospho-ULK1(S556) Antibody - Product Information

Application	IF, DB,E
Primary Accession	O75385
Other Accession	NP_003556.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	112631

Phospho-ULK1(S556) Antibody - 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

This ULK1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S556 of human ULK1.

Dilution

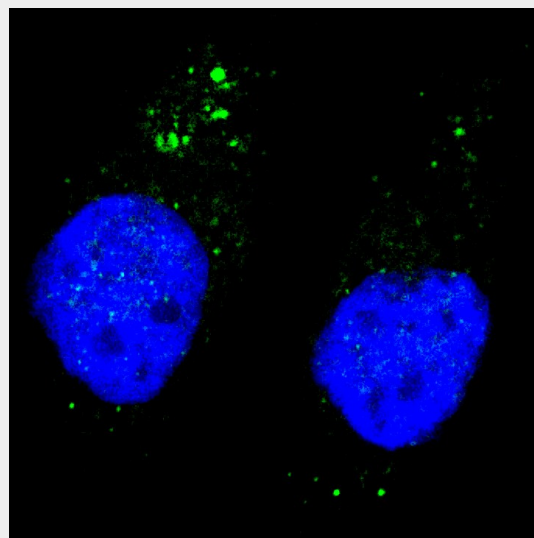
IF~~1:200
DB~~1:500

Format

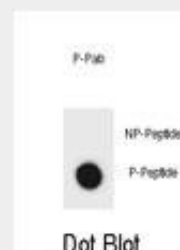
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

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.



Fluorescent image of U251 cells stained with ULK1 (phospho S556) antibody. U251 cells were treated with Chloroquine (50 μ M, 16h), then fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AP3804a ULK1 (phospho S556) primary antibody (1:200, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 μ g/ml, 5 min). ULK1 (phospho S556) immunoreactivity is localized to autophagic vacuoles in the cytoplasm of U251 cells.



Dot blot analysis of ULK1 Antibody (Phospho S556) Phospho-specific Pab (Cat. #AP3804a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working

Precautions

Phospho-ULK1(S556) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Phospho-ULK1(S556) Antibody - Protein Information

Name ULK1 ([HGNC:12558](#))

Synonyms KIAA0722

Function

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

concentrations are 0.6ug per ml.

Phospho-ULK1(S556) Antibody - 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).

Phospho-ULK1(S556) Antibody - References

References for protein:

- 1.Mercer, C.A., et al. Autophagy 5(5):649-662(2009)
 - 2.Ganley, I.G., et al. J. Biol. Chem. 284(18):12297-12305(2009)
 - 3.Jung, C.H., et al. Mol. Biol. Cell 20(7):1992-2003(2009)
 - 4.Hosokawa, N., et al. Mol. Biol. Cell 20(7):1981-1991(2009)
 - 5.Chan, E.Y. Sci Signal 2 (84), PE51 (2009)
- References for U251 cell line:
1. Westermarck B.; Pontén J.; Hugosson R. (1973). "Determinants for the establishment of permanent tissue culture lines from human gliomas". Acta Pathol Microbiol Scand A. 81:791-805. [PMID: 4359449].
 2. Pontén, J.,Westermarck B. (1978). "Properties of Human Malignant Glioma Cells in Vitro". Medical Biology 56: 184-193.[PMID: 359950].
 3. Geng Y.;Kohli L.; Klocke B.J.; Roth K.A.(2010). "Chloroquine-induced autophagic vacuole accumulation and cell death in glioma cells is p53 independent". Neuro Oncol. 12(5): 473-481.[PMID: 20406898].

target="_blank">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). May also phosphorylate SESN2 and SQSTM1 to regulate autophagy (PubMed:25040165). Phosphorylates FLCN, promoting autophagy (PubMed:25126726).

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(S556) Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)