

**ULK2 Antibody**  
Catalog # ASC11654

**Specification**

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**ULK2 Antibody - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">Q8IYT8</a>
Other Accession	<a href="#">NP_055498</a> , <a href="#">217330557</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 105, 114 kDa

Application Notes	Observed: 100 kDa KDa ULK2 Antibody can be used for detection of ULK2 by Western blot at 1 µg/mL.
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**ULK2 Antibody - Additional Information**

Gene ID	9706
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**Target/Specificity**

ULK2; At least two isoforms of ULK2 are known to exist; this antibody will detect both isoforms. ULK2 antibody is predicted to not cross-react with ULK1.

**Reconstitution & Storage**

ULK2 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**Precautions**

ULK2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**ULK2 Antibody - Protein Information**

**Name** ULK2

**Synonyms** KIAA0623

**Function**

Serine/threonine-protein kinase involved in autophagy in response to starvation. Acts upstream of phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes. Part of regulatory feedback loops in autophagy: acts both as a downstream effector and a negative regulator of mammalian target of rapamycin complex 1 (mTORC1) via interaction with RPTOR. Activated via phosphorylation by AMPK, also acts as a negative regulator of AMPK through phosphorylation of the AMPK subunits PRKAA1, PRKAB2 and PRKAG1. May phosphorylate ATG13/KIAA0652, FRS2, FRS3 and RPTOR; however such data need additional evidences. Not involved in ammonia-induced autophagy or in autophagic response of cerebellar granule neurons (CGN) to low potassium concentration. Plays a role early in neuronal differentiation and is required for granule cell axon formation: may govern axon formation via

Ras-like GTPase signaling and through regulation of the Rab5-mediated endocytic pathways within developing axons.

#### Cellular Location

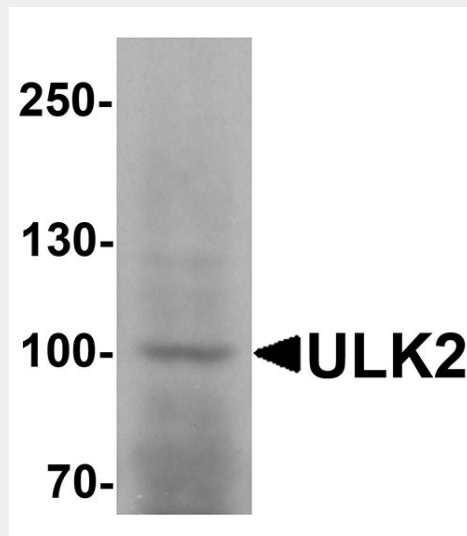
Cytoplasmic vesicle membrane; Peripheral membrane protein. Note=Localizes to pre-autophagosomal membrane

#### ULK2 Antibody - Protocols

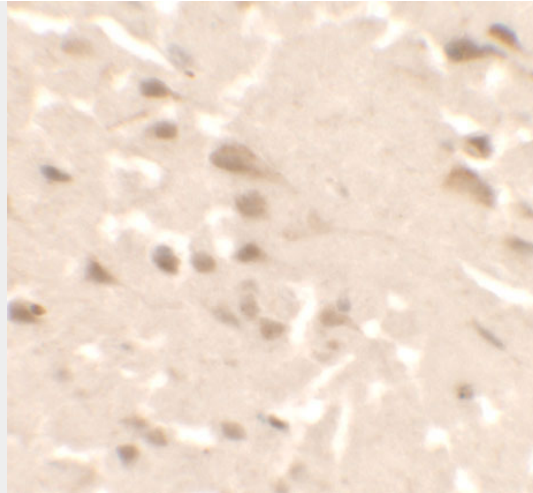
Provided below are standard protocols that you may find useful for product applications.

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

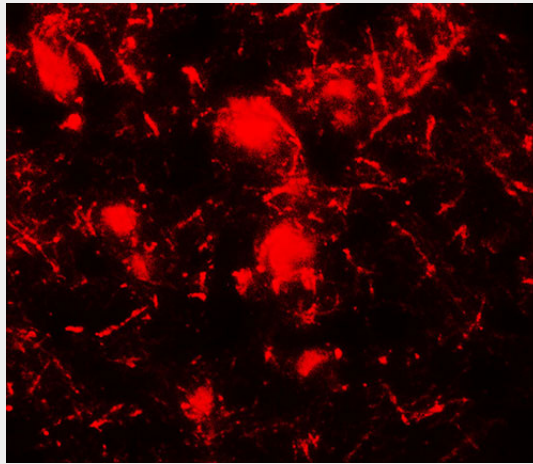
#### ULK2 Antibody - Images



Western blot analysis of ULK2 in human brain tissue lysate with ULK2 antibody at 1 µg/mL.



Immunohistochemistry of ULK2 in human brain tissue with ULK2 antibody at 2.5 µg/ml.



Immunofluorescence of ULK2 in human brain tissue with ULK2 antibody at 20 µg/ml.

### **ULK2 Antibody - Background**

ULK2 Antibody: ULK2, also known as ATG1B, is a key serine/threonine protein kinase probably acting at the most upstream step of autophagosome formation. Knockout of ULK2 results in a severe defect in the autophagy pathway. ULK2 is highly conserved among eukaryotes and shows high homology with its related protein ULK1. Both ULK1 and ULK2 form a complex with ATG13 and FIP200 that mediates TOR signaling and is essential for autophagy. Like ULK1, ULK2 is also thought to be involved in early neuronal growth and differentiation.

### **ULK2 Antibody - References**

- Suzuki K, Kubota Y, Sekito T, et al. Hierarchy of Atg proteins in pre-autophagosomal structure organization. *Genes to Cells* 2007; 12:209-18.
- Lee EJ and Tournier C. The requirement of uncoordinated 51-like kinase 1 (ULK1) and ULK2 in the regulation of autophagy. *Autophagy* 2011; 7:689-95.
- Jung CH, Jun CB, Ro SH, et al. ULK-ATG13-FIP200 complexes mediate mTOR signaling to the autophagy machinery. *Mol. Biol. Cell* 2009; 20:1992-2003.
- Zhou X, Babu JR, da Silva S, et al. Unc-51-like kinase 1/2-mediated endocytic processes regulate filopodia extension and branching of sensory axons. *Proc. Natl. Acad. Sci. USA* 2007; 104:5842-7.