

ULK4 Antibody

Catalog # ASC11730

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q96C45
Other Accession	NP_060356 , 151301204
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	142442
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ULK4 antibody can be used for detection of ULK4 by Western blot at 0.5 - 1 μ g/ml. Antibody can also be used for Immunohistochemistry starting at 5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	54986
Other Names	Serine/threonine-protein kinase ULK4, 2.7.11.1, Unc-51-like kinase 4, ULK4
Target/Specificity	ULK4; ULK4 antibody is human and mouse reactive. Multiple isoforms of ULK4 are known to exist.
Reconstitution & Storage	ULK4 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	ULK4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ULK4 {ECO:0000303 PubMed:32814032, ECO:0000312 HGNC:HGNC:15784}
Function	Pseudokinase that acts as a molecular adapter in the smoothened signaling pathway (PubMed: 38096226). Required to relieve inhibition of the GLI2 transcription factor in the presence of hedgehog (DHH, IHH or SHH) ligand: acts by mediating the association between STK36 and its ligand GLI2 in ciliary tip, promoting GLI2 phosphorylation and dissociation from SUFU inhibitor, followed by GLI2 translocation to the nucleus (PubMed: 38096226).
Cellular Location	Cell projection, cilium. Note=STK36 and ULK4 are mutually dependent for localization to ciliary tip
Tissue Location	Expressed in the brain, mainly in postmitotic neurons, including GABAergic

neurons, but not in astrocytes (at protein level).

Background

ULK4 belongs to the Ser/Thr protein kinase superfamily and plays a role in the ATP-dependent phosphorylation of target proteins (1). Knockout of ULK genes results in a severe defect in the autophagy pathway (2). ULK4, like the other Unc-51-like kinases such as ULK1, ULK2 and ULK3, is highly conserved among eukaryotes (3). ULK4 has been implicated as a gene involved in the development of hydrocephalus (3). This neurologic disorder is being used in animal models to elucidate factors responsible for the excessive accumulation of cerebrospinal fluid in hydrocephalic humans (4).

References

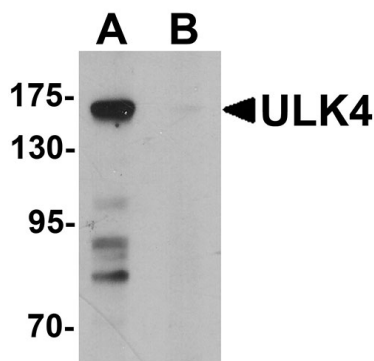
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Lee EJ and Tournier C. The requirement of uncoordinated 51-like kinase 1 (ULK1) and ULK2 in the regulation of autophagy. *Autophagy* 2011; 7:689-95.

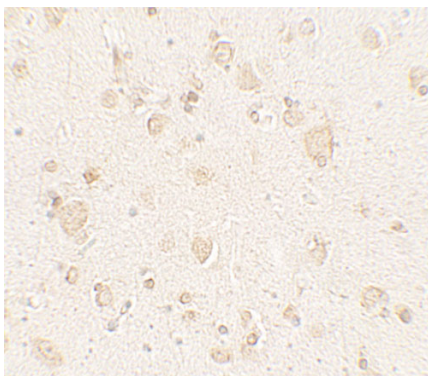
Zhou X, Babu JR, da Silva S, et al. Unc-51-like kinase 1/2-mediated endocytic processes regulate filopodia extension and branching of sensory axons. *Proc. Natl. Acad. Sci. USA* 2007; 104:5842-7.

Vogel P, Read RW, Hansen GM, et al. Congenital hydrocephalus in genetically engineered mice. *Vet. Pathol.* 2012; 49:166-81.

Images

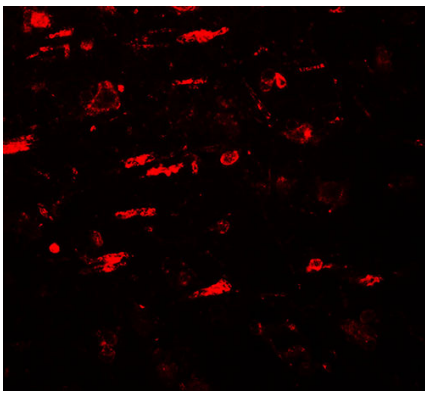


Western blot analysis of ULK4 in 3T3 cell lysate with ULK4 antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of ULK4 in human brain tissue with ULK4 antibody at 5 µg/mL.

Immunofluorescence of ULK4 in human brain tissue with ULK4 antibody at 20 µg/mL.



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