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KLHL22 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1461a

Product Information

Application	WB, ICC, E
Primary Accession	Q53GT1
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7B10
Isotype	IgG1
Calculated MW	71667
Description	KLHL22 (kelch-like protein 22) is a 634 amino acid protein that is related to the Drosophilakelch protein, which is required to maintain Actin organization in ovarian ring canals. Mutations affecting Kelch function result in the failure of Kelch to associate with the ring canals and subsequent female sterility. Human KLHL22 protein contains six kelch repeats and one BTB (POZ) domain. The BTB (Broad-Complex, Tramtrack and Bric a brac) domain, also known as the POZ (Poxvirus and Zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C2H2-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. There are two isoforms of KLHL22 that are produced as a result of alternative splicing events.
Immunogen	Purified recombinant fragment of human KLHL22 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	84861
Other Names	Kelch-like protein 22, KLHL22
Dilution	WB~~1/500 - 1/2000 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KLHL22 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KLHL22 (HGNC:25888)
Function	Substrate-specific adapter of a BCR (BTB-CUL3-RBX1) E3 ubiquitin ligase complex required for chromosome alignment and localization of PLK1 at kinetochores. The BCR(KLHL22) ubiquitin ligase complex mediates monoubiquitination of PLK1, leading to PLK1 dissociation from phosphoreceptor proteins and subsequent removal from kinetochores, allowing silencing of the spindle assembly checkpoint (SAC) and chromosome segregation. Monoubiquitination of PLK1 does not lead to PLK1 degradation (PubMed:19995937, PubMed:23455478). The BCR(KLHL22) ubiquitin ligase complex is also responsible for the amino acid-stimulated 'Lys-48' polyubiquitination and proteasomal degradation of DEPDC5. Through the degradation of DEPDC5, releases the GATOR1 complex-mediated inhibition of the TORC1 pathway. It is therefore an amino acid-dependent activator within the amino acid-sensing branch of the TORC1 pathway, indirectly regulating different cellular processes including cell growth and autophagy (PubMed:29769719).
Cellular Location	Cytoplasm, cytosol. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle. Nucleus. Lysosome Note=Mainly cytoplasmic in prophase and prometaphase. Associates with the mitotic spindle as the cells reach chromosome bi-orientation Localizes to the centrosomes shortly before cells enter anaphase After anaphase onset, predominantly associates with the polar microtubules connecting the 2 opposing centrosomes and gradually diffuses into the cytoplasm during telophase (PubMed:23455478). Localizes to the nucleus upon amino acid starvation (PubMed:29769719). Relocalizes to the cytosol and associates with lysosomes when amino acids are available (PubMed:29769719).

References

1. Gene. 1994 Jan 28;138(1-2):171-4. 2. Nat Genet. 2004 Jan;36(1):40-5. 3. Cell. 2009 Jul 23;138(2):389-403.

Images

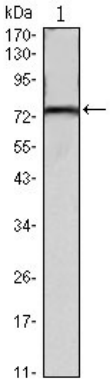
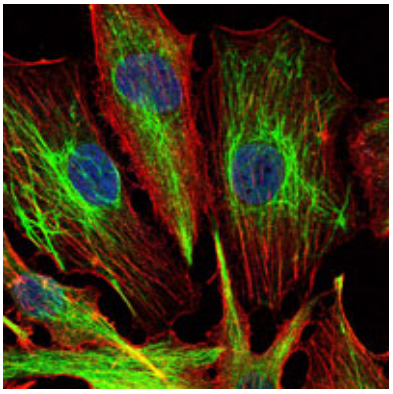


Figure 1: Western blot analysis using KLHL22 mouse mAb against mouse brain tissues lysate.

Figure 2: Immunofluorescence analysis of U251 cells using KLHL22 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



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