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Cullin 4A/4B Rabbit mAb

Catalog # AP75306

Product Information

Application	WB, IHC-P
Primary Accession	Q13620
Reactivity	Rat, Human, Mouse, Hamster
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	103982

Additional Information

Gene ID	8450
Other Names	CUL4B
Dilution	WB~~1:1000-1:5000 IHC-P~~N/A
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	CUL4B {ECO:0000303|PubMed:14578910, ECO:0000312|HGNC:HGNC:2555}
Function	Core component of multiple cullin-RING-based E3 ubiquitin- protein ligase complexes which mediate the ubiquitination and subsequent proteasomal degradation of target proteins (PubMed:14578910, PubMed:16322693, PubMed:16678110, PubMed:18593899, PubMed:22118460, PubMed:29779948, PubMed:30166453, PubMed:33854232, PubMed:33854239, PubMed:25970626). The functional specificity of the E3 ubiquitin- protein ligase complex depends on the variable substrate recognition subunit (PubMed:14578910, PubMed:16678110, PubMed:18593899, PubMed:22118460, PubMed:29779948). CUL4B may act within the complex as a scaffold protein, contributing to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme (PubMed:14578910, PubMed:16678110, PubMed:18593899, PubMed:22118460). Plays a role as part of the E3 ubiquitin-protein ligase complex in polyubiquitination of CDT1, histone H2A, histone H3 and histone H4 in response to radiation-induced DNA damage (PubMed:14578910,

PubMed:16678110, PubMed:18593899). Targeted to UV damaged chromatin by DDB2 and may be important for DNA repair and DNA replication (PubMed:16678110). A number of DCX complexes (containing either TRPC4AP or DCAF12 as substrate-recognition component) are part of the DesCEND (destruction via C-end degrons) pathway, which recognizes a C-degron located at the extreme C terminus of target proteins, leading to their ubiquitination and degradation (PubMed:29779948). The DCX(AMBRA1) complex is a master regulator of the transition from G1 to S cell phase by mediating ubiquitination of phosphorylated cyclin-D (CCND1, CCND2 and CCND3) (PubMed:33854232, PubMed:33854239). The DCX(AMBRA1) complex also acts as a regulator of Cul5-RING (CRL5) E3 ubiquitin-protein ligase complexes by mediating ubiquitination and degradation of Elongin-C (ELOC) component of CRL5 complexes (PubMed:30166453). Required for ubiquitination of cyclin E (CCNE1 or CCNE2), and consequently, normal G1 cell cycle progression (PubMed:16322693, PubMed:19801544). Regulates the mammalian target-of-rapamycin (mTOR) pathway involved in control of cell growth, size and metabolism (PubMed:18235224). Specific CUL4B regulation of the mTORC1-mediated pathway is dependent upon 26S proteasome function and requires interaction between CUL4B and MLST8 (PubMed:18235224). With CUL4A, contributes to ribosome biogenesis (PubMed:26711351).

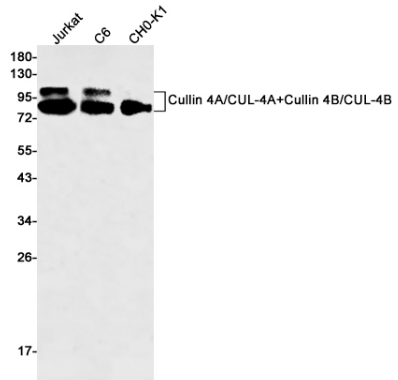
Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:A2A432}. Nucleus. Note=More concentrated in nuclei than in cytoplasm in germinal vesicle (GV) stage oocytes, zygotes and the 2-cell stage, but distributed in the cytoplasm at the MII-stage oocytes. {ECO:0000250|UniProtKB:A2A432}

Background

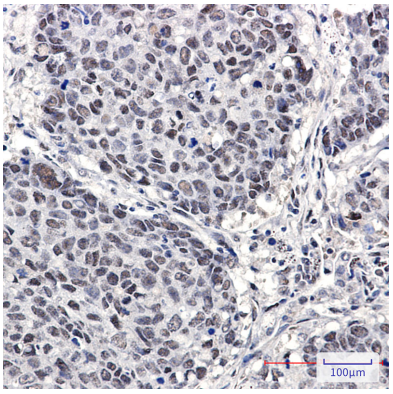
Core component of multiple cullin-RING-based E3 ubiquitin-protein ligase complexes which mediate the ubiquitination and subsequent proteasomal degradation of target proteins. The functional specificity of the E3 ubiquitin-protein ligase complex depends on the variable substrate recognition subunit. CUL4B may act within the complex as a scaffold protein, contributing to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme. Plays a role as part of the E3 ubiquitin-protein ligase complex in polyubiquitination of CDT1, histone H2A, histone H3 and histone H4 in response to radiation-induced DNA damage. Targeted to UV damaged chromatin by DDB2 and may be important for DNA repair and DNA replication. Required for ubiquitination of cyclin E, and consequently, normal G1 cell cycle progression. Regulates the mammalian target-of-rapamycin (mTOR) pathway involved in control of cell growth, size and metabolism. Specific CUL4B regulation of the mTORC1-mediated pathway is dependent upon 26S proteasome function and requires interaction between CUL4B and MLST8.

Images



Western blot analysis of Cullin 4A/CUL4A+Cullin 4B/CUL4B in Jurkat, C6, CHO-K1 lysates using Cullin 4A/4B antibody.

Immunohistochemistry analysis of paraffin-embedded Human lung cancer using Cullin 4A/B



antibody.High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.

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