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Anti-Cullin 4B Antibody

Catalog # ABO10610

Product Information

Application	WB, IHC-P
Primary Accession	Q13620
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cullin-4B(CUL4B) detection. Tested with WB, IHC-P in Human;Mouse;Rat;Zebrafish.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	8450
Other Names	Cullin-4B, CUL-4B, CUL4B, KIAA0695
Calculated MW	103982
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Zebrafish, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat, Zebrafish, Mouse
Subcellular Localization	Nucleus .
Source	Eukaryota
Protein Name	Cullin-4B(CUL-4B)
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Cullin 4B(895-913aa DRDYMERDKENPNQYNYIA), identical to the related rat and mouse sequences.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities	Belongs to the cullin family.

Protein Information

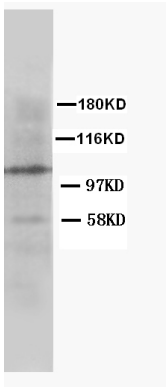
Name	CUL4B {ECO:0000303|PubMed:14578910, ECO:0000312|HGNC:HGNC:2555}
Function	Core component of multiple cullin-RING-based E3 ubiquitin- protein ligase complexes which mediate the ubiquitination and subsequent proteasomal degradation of target proteins (PubMed:14578910, PubMed:16322693, PubMed:16678110, 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

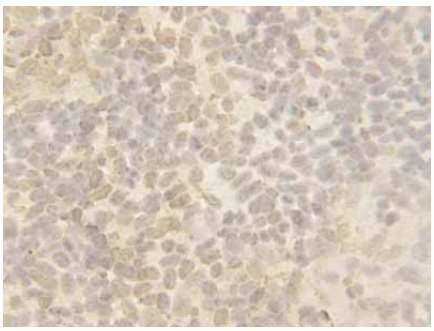
Cullin 4B/CUL4B encodes a scaffold protein that organizes a cullin-RING(really interesting new gene) ubiquitin ligase(E3) complex in ubiquitylation. The CUL4 gene encodes a protein of 913 amino acids. The cullin domain is located between amino acid residues 217 and 815 and is characterized a by C-terminal globular domain(cullin homology domain) and a series of N-terminal repeats(cullin repeats). Ohtake et al.(2007) characterize a fat-soluble ligand-dependent ubiquitin ligase complex in human cell lines, in which dioxin receptor(AhR) is integrated as a component of a novel cullin 4B ubiquitin ligase complex, CUL4B(AhR). Complex assembly and ubiquitin ligase activity of CUL4B(AhR) in vitro and in vivo are dependent on the AhR ligand. In the CUL4B(AhR) complex, ligand-activated AhR acts as a substrate-specific adaptor component that

targets sex steroid receptors for degradation. Their findings uncover a function for AhR as an atypical component of the ubiquitin ligase complex and demonstrate a non-genomic signalling pathway in which fat-soluble ligands regulate target-protein-selective degradation through a ubiquitin ligase complex.

Images



Anti-Cullin 4B antibody, ABO10610, Western blottingWB: Rat Lung Tissue Lysate



Anti-Cullin 4B antibody, ABO10610, IHC(P)IHC(P): Zebrafish Body Tissue

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.