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CUL4A Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13873a

Product Information

Application	WB, E
Primary Accession	Q13619
Other Accession	Q3TCH7, NP_001008895.1, NP_003580.1
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33954
Calculated MW	87680
Antigen Region	31-60

Additional Information

Gene ID	8451
Other Names	Cullin-4A, CUL-4A, CUL4A
Target/Specificity	This CUL4A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 31-60 amino acids from the N-terminal region of human CUL4A.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CUL4A Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CUL4A {ECO:0000303|PubMed:9721878, ECO:0000312|HGNC:HGNC:2554}
Function	Core component of multiple cullin-RING-based E3 ubiquitin- protein ligase complexes which mediate the ubiquitination of target proteins (PubMed:14578910, PubMed:14739464, PubMed:15448697, PubMed:15548678, PubMed:15811626, PubMed:16678110,

PubMed:17041588, PubMed:24209620, PubMed:30166453, PubMed:33854232, PubMed:33854239). As a scaffold protein may contribute to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme (PubMed:14578910, PubMed:14739464, PubMed:15448697, PubMed:15548678, PubMed:15811626, PubMed:16678110, PubMed:17041588, PubMed:24209620). The E3 ubiquitin- protein ligase activity of the complex is dependent on the neddylation of the cullin subunit and is inhibited by the association of the deneddylated cullin subunit with TIP120A/CAND1 (PubMed:14578910, PubMed:14739464, PubMed:15448697, PubMed:15548678, PubMed:15811626, PubMed:16678110, PubMed:17041588, PubMed:24209620). The functional specificity of the E3 ubiquitin-protein ligase complex depends on the variable substrate recognition component (PubMed:14578910, PubMed:14739464, PubMed:15448697, PubMed:15548678, PubMed:15811626, PubMed:16678110, PubMed:17041588, PubMed:24209620). DCX(DET1-COP1) directs ubiquitination of JUN (PubMed:14739464). DCX(DDB2) directs ubiquitination of XPC (PubMed:15811626). DCX(DDB2) ubiquitinates histones H3-H4 and is required for efficient histone deposition during replication-coupled (H3.1) and replication-independent (H3.3) nucleosome assembly, probably by facilitating the transfer of H3 from ASF1A/ASF1B to other chaperones involved in histone deposition (PubMed:16678110, PubMed:17041588, PubMed:24209620). DCX(DTL) plays a role in PCNA-dependent polyubiquitination of CDT1 and MDM2-dependent ubiquitination of p53/TP53 in response to radiation-induced DNA damage and during DNA replication (PubMed:14578910, PubMed:15448697, PubMed:15548678). DCX(DTL) directs autoubiquitination of DTL (PubMed:23478445). In association with DDB1 and SKP2 probably is involved in ubiquitination of CDKN1B/p27kip (PubMed:16537899). Is involved in ubiquitination of HOXA9 (PubMed:14609952). The DDB1-CUL4A- DTL E3 ligase complex regulates the circadian clock function by mediating the ubiquitination and degradation of CRY1 (PubMed:26431207). The DCX(ERCC8) complex (also named CSA complex) plays a role in transcription-coupled repair (TCR) (PubMed:12732143, PubMed:32355176, PubMed:38316879). 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). With CUL4B, contributes to ribosome biogenesis (PubMed:26711351).

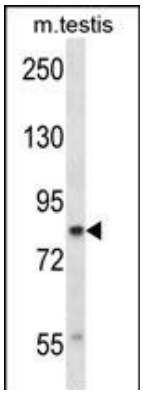
Background

CUL4A is the ubiquitin ligase component of a multimeric complex involved in the degradation of DNA damage-response proteins (Liu et al., 2009 [PubMed 19481525]).

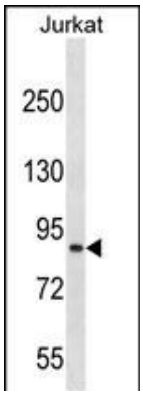
References

Aggarwal, P., et al. Cancer Cell 18(4):329-340(2010)
Abbas, T., et al. Mol. Cell 40(1):9-21(2010)
Lv, X.B., et al. J. Biol. Chem. 285(24):18234-18240(2010)
Kerzendorfer, C., et al. Hum. Mol. Genet. 19(7):1324-1334(2010)
Melchor, L., et al. Breast Cancer Res. 11 (6), R86 (2009) :

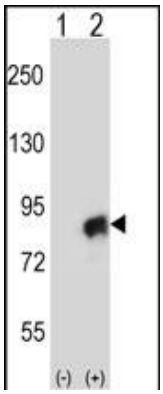
Images



CUL4A Antibody (N-term) (Cat. #AP13873a) western blot analysis in mouse testis tissue lysates (35ug/lane).This demonstrates the CUL4A antibody detected the CUL4A protein (arrow).



CUL4A Antibody (N-term) (Cat. #AP13873a) western blot analysis in Jurkat cell line lysates (35ug/lane).This demonstrates the CUL4A antibody detected the CUL4A protein (arrow).



Western blot analysis of CUL4A (arrow) using rabbit polyclonal CUL4A Antibody (N-term) (Cat. #AP13873a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the CUL4A gene.