

Anti-Cullin 4A / CUL4A Antibody

Rabbit Anti Human Polyclonal Antibody

Catalog # ALS18167

Product Information

Application	WB, IHC-P
Primary Accession	Q13619
Predicted	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	87680

Additional Information

Gene ID	8451
Alias Symbol	CUL4A
Other Names	CUL4A, CUL-4A, Cullin-4A, Cullin 4A
Target/Specificity	Human Cullin 4A / CUL4A
Reconstitution & Storage	Affinity purified
Precautions	Anti-Cullin 4A / CUL4A Antibody 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](#)).

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