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Anti-Cul4A (N-terminal specific) (RABBIT) Antibody
Cul4A Antibody
Catalog # ASR3717

Specification

Anti-Cul4A (N-terminal specific) (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, IHC, E, IP, I, LCI**
Application Note	**Anti-Cul4A has been tested by western blot, immunoprecipitation, and immunohistochemistry. The antibody immunoprecipitates protein from cell lysates (using HeLa, U2OS and others). This antibody also co-immunoprecipitates at least 8 subunits of COP9, DDB1 and CAND1. An 87.6 kDa band corresponding to human Cul4A is detected. Most cell lines expressing Cul4A can be used as a positive control. Researchers should determine optimal titers for other applications.**
Physical State	**Liquid (sterile filtered)**
Immunogen	**This antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to the N-Terminal region near amino acids 1-25 of Human Cul4A coupled to KLH.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Cul4A (N-terminal specific) (RABBIT) Antibody - Additional Information

Gene ID 8451

Other Names
8451

Purity
This product is monospecific antiserum processed by delipidation and defibrination followed by sterile filtration. This product reacts with human Cullin 4A. Cross reactivity is expected against mouse Cul4A based on a high degree of sequence homology. Cross reactivity with other human cullins may occur.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Cul4A (N-terminal specific) (RABBIT) Antibody - 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).

Anti-Cul4A (N-terminal specific) (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Cul4A (N-terminal specific) (RABBIT) Antibody - Images

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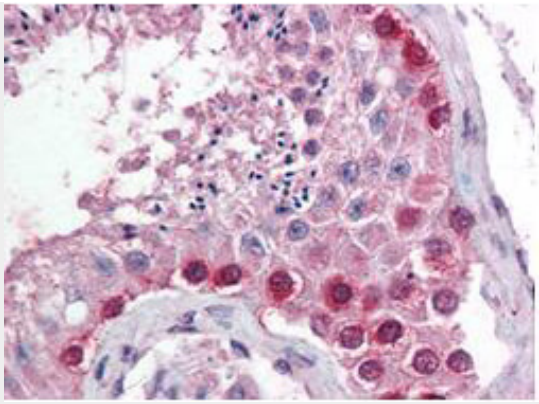

Immunohistochemistry. Rockland's anti-CUL4 antibody was diluted 1:500 to detect CUL4 in human testes tissue. Tissue was formalin fixed and paraffin embedded. No pre-treatment of sample was required. The image shows the localization of antibody as the precipitated red signal, with a hematoxylin purple nuclear counter stain.

Anti-Cul4A (N-terminal specific) (RABBIT) Antibody - Background

Cullins assemble a potentially large number of ubiquitin ligases by binding to the RING protein ROC1 to catalyse polyubiquitination, as well as binding to various specificity factors to recruit substrates. Cullin 4a is an essential component of the SCF (SKP1-CUL1-F-box protein) E3 ubiquitin ligase complex, which mediates the ubiquitination of proteins involved in cell cycle progression, signal transduction and transcription. In the SCF complex, cul4A serves as a rigid scaffold that organizes the SKP1-F-box protein and RBX1 subunits. Cul4A may also contribute to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme. Cul4A also interacts with RNF7 and is part of a complex with TIP120A/CAND1, Cyclin E and RBX1.