

Datasheet for 100-401-A04**Cul4A Antibody****Overview**

Description:	Anti-Cul4A (N-terminal specific) (RABBIT) Antibody - 100-401-A04
Item No.:	100-401-A04
Size:	100 µL
Applications:	IHC, WB, IP
Reactivity:	Human
Host Species:	Rabbit

Product Details

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.
Synonyms:	rabbit anti-Cul4A Antibody, 2810470J21Rik antibody, AW495282 antibody, CUL 4A antibody, CUL4A antibody, Cul4a protein antibody, MGC36573 antibody, MGC64071 antibody, CUL, Cullin
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	CUL4A
Reactivity:	Human
Immunogen Type:	Conjugated Peptide

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.
Purity/Specificity:	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.
Relevant Links:	• NCBI - 38176422 • UniProtKB - Q13619 • GeneID - 8451

Application Details

Tested Applications:	IHC, WB
Suggested Applications:	IP (Based on references)
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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:2,000 - 1:10,000
IHC:	User Optimized
IP:	1:500
WB:	1:500 - 1:1,000

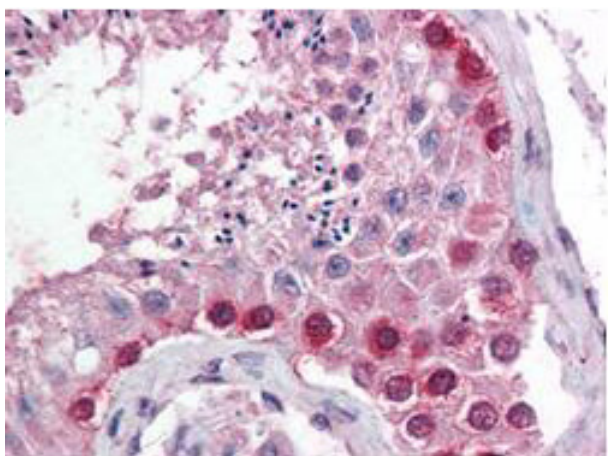
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	85 mg/mL by Refractometry
Buffer:	None
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

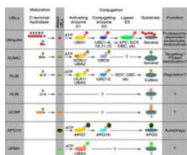
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



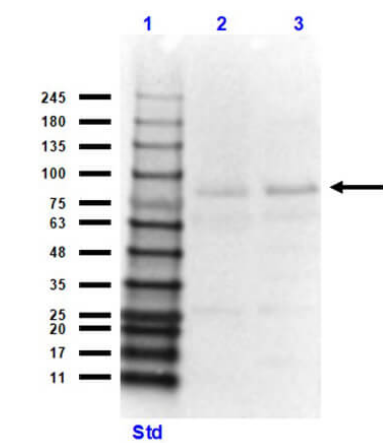
Immunohistochemistry

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.



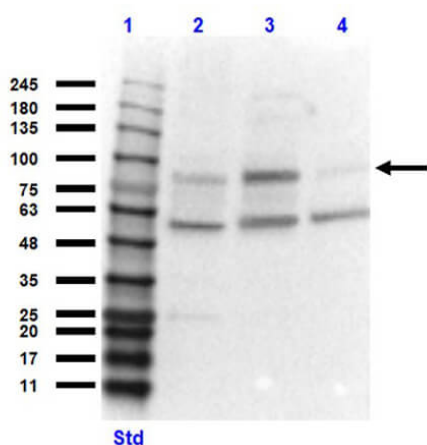
Pathway

Most modifiers mature by proteolytic processing from inactive precursors (a; amino acid). Arrowheads point to the cleavage sites. Ubiquitin is expressed either as polyubiquitin or as a fusion with ribosomal proteins. Conjugation requires activating (E1) and conjugating (E2) enzymes that form thioesters (S) with the modifiers. Modification of cullins by RUB involves SCF(SKP1/cullin-1/F-box protein) /CBC(cullin-2/elongin B/elonginC) -like E3 enzymes that are also involved in ubiquitination. In contrast to ubiquitin, the UBLs do not seem to form multi-UBL chains. UCRP(ISC15) resembles two ubiquitin moieties linked head-to-tail. Whether HUB1 functions as a modifier is currently unclear. APG12 and URM1 are distinct from the other modifiers because they are unrelated in sequence to ubiquitin. Data contributed by S.Jentsch, see references below.



Western Blot

Western Blot of Rabbit Anti-Cul4 Antibody. Lane 1: Opal Pre-Stained Ladder (p/n MB-210-0500). Lane 2: human Testis. Lane 3: human skeletal muscle. Load: 35µg lysate per lane. Primary Antibody: Anti-Cul4 at 1:500 overnight at 2-8°C. Secondary Antibody: Goat anti-rabbit IgG HRP (p/n 611-103-122) at 1:70,000 at RT for 30 mins. Expect: ~87.6kDa.



Western Blot

Western Blot of Rabbit Anti-Cul4 Antibody. Lane 1: Opal Pre-Stained Ladder (p/n MB-210-0500). Lane 2: A431 whole cell lysate (p/n W09-000-361). Lane 3: U2OS whole cell lysate (p/n W09-001-374). Lane 4: HeLa whole cell lysate (p/n W09-000-364). Load: 35µg lysate per lane. Primary Antibody: Anti-Cul4 at 1:500 overnight at 2-8°C. Secondary Antibody: Goat anti-rabbit IgG HRP (p/n 611-103-122) at 1:70,000 at RT for 30 mins. Expect: ~87.6kDa.

References

- Islam S et al. FBXW8 regulates G1 and S phases of cell cycle progression by restricting β -TrCP1 function. *FEBS J.* (2021)
- Li B et al. Cul4A targets p27 for degradation and regulates proliferation, cell cycle exit, and differentiation during erythropoiesis. *Blood.* (2006)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.