

Datasheet for 100-401-A05**Cul5 Antibody****Overview**

Description:	Anti-Cul5 (N-terminal specific) (RABBIT) Antibody - 100-401-A05
Item No.:	100-401-A05
Size:	100 µL
Applications:	IHC, IP, WB, IF, Multiplex
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 5 is a component of E3 ubiquitin ligase complexes, which mediate the ubiquitination and subsequent proteasomal degradation of target proteins. Cullin 5 seems to be involved proteasomal degradation of p53/TP53 stimulated by adenovirus E1B-55 kDa protein. Cullin 5 may form a cell surface vasopressin receptor. Cullin 5 is part of a E3 ubiquitin ligase complex with elongin BC complex (TCEB1 and TCEB2), RBX1 and MUF1, complexes with elongin BC complex (TCEB1 and TCEB2), RBX1 and TCEB3 or SOCS1 or WSB1; elongin BC complex (TCEB1 and TCEB2), RBX1 and VHL; elongin BC complex (TCEB1 and TCEB2), RBX1, adenovirus type 5 E1B-55kDa protein and adenovirus type 5 E4-orf6. Cullin 5 Interacts with RBX1 and RNF7.
Synonyms:	rabbit anti-Cul5 Antibody, rabbit anti-Cullin5 antibody, VACM 1 antibody, VACM1 antibody, Vasopressin activated calcium mobilizing receptor 1 antibody, Vasopressin activated calcium mobilizing receptor antibody, CUL, Cullin
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	CUL5
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 an N-Terminal region near amino acids 1-25 of Human Cul5 (N-terminus) 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 5. Cross reactivity is expected against mouse Cul5 based on a high degree of sequence homology. Cross reactivity with other human cullins may occur.
Relevant Links:	• NCBI - NP_003469.2 • UniProtKB - Q93034 • GenelD - 8065

Application Details

Tested Applications:	IHC, IP, WB
Suggested Applications:	IF, Multiplex (Based on references)
Application Note:	Anti-Cul5 has been tested by immunohistochemistry. This antibody reacts with human Cul5 by western blot and immunoprecipitation. The antibody immunoprecipitates protein from cell lysates (using 293T, U2OS and others). This antibody also co-immunoprecipitates associated proteins. A 90.9 kDa band corresponding to human Cul5 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:	User Optimized
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

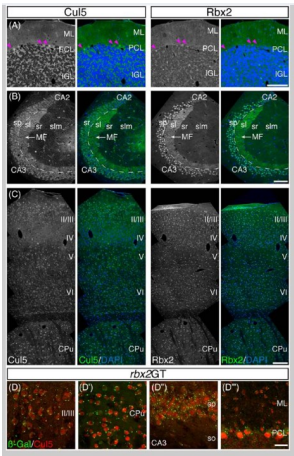
Shipping & Handling

Shipping Condition: Dry Ice

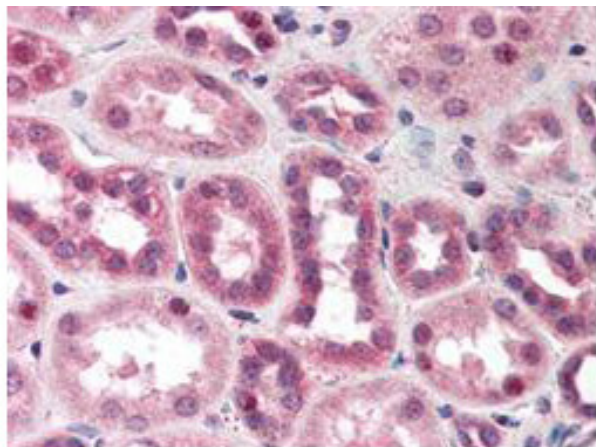
Storage Condition: Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted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

Expiration: Expiration date is one (1) year from date of receipt.

Images

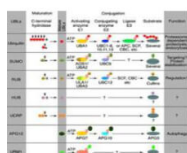


Immunofluorescence Microscopy
Co-expression of Cul5 and Rbx2 in the adult brain. Comparative analysis of Cul5 and Rbx2 by immunofluorescence in consecutive wild-type adult brain sections. In the cerebellum, both Cul5 and Rbx2 were detected in the nuclei of Purkinje cells (purple arrowheads) and broadly distributed in the internal granular layer (A). In the hippocampus, Cul5 was detected principally in the cytoplasm of the pyramidal cells of the cornu ammonis and in mossy fibers. Rbx2 was detected in the nuclei of pyramidal cells and in mossy fibers (B). In the neocortical neurons, Cul5 was detected in the cytoplasm and Rbx2 in the nucleus. On the contrary, in the caudate-putamen, both Cul5 and Rbx2 have a nuclear localization. D-D'': Immunofluorescence against β -galactosidase and Cul5 in adult *rbx2GT* tissue shows ubiquitous colocalization, including the neocortex (D), caudate-putamen (D''), hippocampus (D''), and cerebellum (D'''). MF, mossy fibers; sl, stratum lucidum. Scale bars A,B = 100 μ m. Scale bar C = 500 μ m. Scale bar D = 25 μ m. Fig 6. PMID: 30269386.



Immunohistochemistry

Rockland's Anti-CUL5 antibody was diluted 1:500 to detect CUL5 in human kidney 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(ISG15) 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.

References

- Islam S et al. FBXW8 regulates G1 and S phases of cell cycle progression by restricting β -TrCP1 function. *FEBS J.* (2021)
- Hino K et al. Comparative Analysis of cul5 and rbx2 Expression in the Developing and Adult Murine Brain and Their Essentiality During Mouse Embryogenesis. *Dev Dyn.* (2018)

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.