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Datasheet for 100-401-A01

Cul1 Antibody

Overview

Description:	Anti-Cul1 (C-terminal specific) (RABBIT) Antibody - 100-401-A01
Item No.:	100-401-A01
Size:	100 µL
Applications:	IHC, IP, WB, Other
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 1 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, cul1 serves as a rigid scaffold that organizes the SKP1-F-box protein and RBX1 subunits. Cul1 may also contribute to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme. Cul1 is part of the SCF complex consisting of CUL1, RBX1, SKP1 and SKP2, where it interacts directly with SKP1, SKP2 and RBX1. Cul1 also interacts with RNF7 and is part of a complex with TIP120A/CAND1 and RBX1. The unneddylated form interacts with TIP120A/CAND1 and the interaction negatively regulates the association with SKP1 in the SCF complex.
Synonyms:	rabbit anti-Cul1 Antibody, rabbit anti-Cullin1 antibody, MGC149834 antibody, MGC149835 antibody, CUL, Cullin
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	CUL1
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 C-Terminal near amino acids 750-776 of Human Cul1 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 1. Cross reactivity is expected against mouse Cul1 based on sequence homology.
Relevant Links:	• UniProtKB - Q13616 • NCBI - 32307161 • GeneID - 8454

Application Details

Tested Applications:	IHC, IP, WB
Suggested Applications:	Other (Based on references)
Application Note:	Anti-Cul1 has been tested by immunohistochemistry. This antibody reacts with human Cul1 by immunohistochemistry, western blot, and immunoprecipitation. The antibody immunoprecipitates in vitro translated product and protein from cell lysates (using HeLa or NIH-3T3). Do not IP in the presence of NP-40, but rather use 0.1% SDS. An 89.6 kDa band corresponding to human Cul1 is detected. Most cell lines expressing Cul1 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

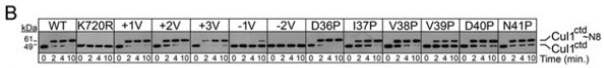
Formulation

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

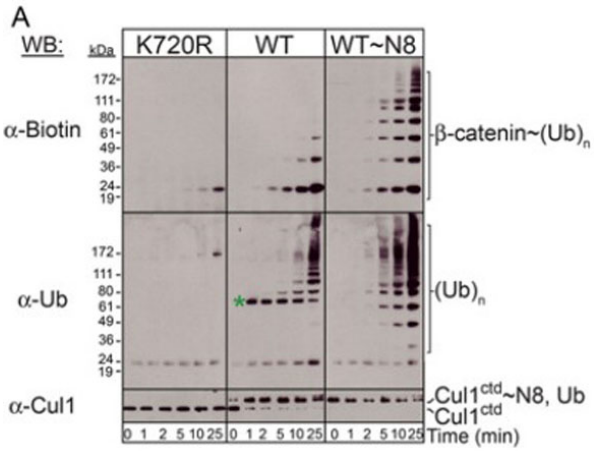
Shipping & Handling

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.

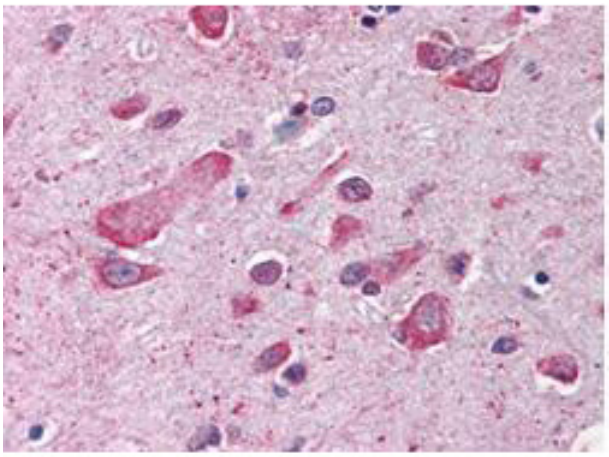
Images



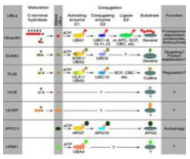
Western Blot
Western Blot of Anti-Cul1 Antibody.
Functional analysis of mutations influencing RING conformational flexibility. B, NEDD8ylation time-course for wild-type (wt) Cul1-Rbx1, non-NEDD8ylatable (K720R) control, and variants harboring the indicated Rbx1 linker Val insertion/deletion or Pro mutations, detected by western blotting with anti-Cul1 C-terminus antisera. Figure 5, PMID: 18805092.



Western Blot
Western Blot of Anti-Cul1 Antibody.
Conformational control of CRL activities.
(A) Polyubiquitination reactions with SCFβTRCP/β-catenin phosphopeptide (left), and SCFSkp2/CksHs1/ phospho-p27 (right) reconstituted with non-NEDD8ylatable (K720R), un-NEDD8ylated wild-type (WT), and fully NEDD8ylated Cul1-Rbx1 (WT~N8). Reaction products were detected by immunoblotting, top panels with anti-biotin (left) or anti-p27 (right), middle with anti-His (Ubiquitin; green * - Cul1~Ubiquitin), and lower with anti-Cul1 C-terminus antisera. Figure 7. PMID: 18805092.



Immunohistochemistry
Rockland's Anti-CUL1 antibody was diluted 1:500 to detect CUL1 in human brain cortex 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 thiolesters (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

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