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CUL5 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7577b

Product Information

Application	WB, FC, IHC-P, E
Primary Accession	Q93034
Other Accession	Q29425
Reactivity	Human
Predicted	Rabbit, Mouse, Rat, Bovine, Canine, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB17926
Calculated MW	90955
Antigen Region	747-774

Additional Information

Gene ID	8065
Other Names	Cullin-5, CUL-5, Vasopressin-activated calcium-mobilizing receptor 1, VACM-1, CUL5, VACM1
Target/Specificity	This CUL5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 747-774 amino acids from the C-terminal region of human CUL5.
Dilution	WB~~1:1000 FC~~1:10~50 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CUL5 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CUL5 {ECO:0000303|PubMed:10230407, ECO:0000312|HGNC:HGNC:2556}
Function	Core component of multiple cullin-5-RING E3 ubiquitin-protein ligase

	complexes (ECS complexes, also named CRL5 complexes), which mediate the ubiquitination and subsequent proteasomal degradation of target proteins (PubMed:11384984, PubMed:15601820, PubMed:21199876, PubMed:21980433, PubMed:23897481, PubMed:25505247, PubMed:27910872, PubMed:32200094, PubMed:33268465, PubMed:35512830, PubMed:38418882, PubMed:40963025). Acts a scaffold protein that contributes to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme (PubMed:11384984, PubMed:15601820, PubMed:33268465). The functional specificity of the E3 ubiquitin-protein ligase complex depends on the variable SOCS box-containing substrate recognition component (PubMed:11384984, PubMed:15601820, PubMed:33268465). Acts as a key regulator of neuron positioning during cortex development: component of various SOCS-containing ECS complexes, such as the ECS(SOCS7) complex, that regulate reelin signaling by mediating ubiquitination and degradation of DAB1 (By similarity). ECS(SOCS1) seems to direct ubiquitination of JAK2 (PubMed:11384984). The ECS(SOCS2) complex mediates the ubiquitination and subsequent proteasomal degradation of phosphorylated EPOR and GHR (PubMed:21980433, PubMed:25505247). The ECS(SPSB3) complex catalyzes ubiquitination of nuclear CGAS (PubMed:38418882). ECS(KLHDC1) complex is part of the DesCEND (destruction via C-end degrons) pathway and mediates ubiquitination and degradation of truncated SELENOS selenoprotein produced by failed UGA/Sec decoding, which ends with a glycine (PubMed:32200094). The ECS(ASB9) complex mediates ubiquitination and degradation of CKB (PubMed:33268465). As part of some ECS complex, promotes 'Lys-11'-linked ubiquitination and degradation of BTRC (PubMed:27910872). As part of a multisubunit ECS complex, polyubiquitinates monoubiquitinated POLR2A (PubMed:19920177). As part of the ECS(RAB40C) complex, mediates ANKRD28 ubiquitination and degradation, thereby inhibiting protein phosphatase 6 (PP6) complex activity and focal adhesion assembly during cell migration (PubMed:35512830). As part of the ECS(RAB40A) complex, mediates RHOU 'Lys-48'-linked ubiquitination and degradation, thus inhibiting focal adhesion disassembly during cell migration (PubMed:26598620). As part of the ECS(RAB40B) complex, mediates LIMA1/EPLIN and RAP2 ubiquitination, thereby regulating actin cytoskeleton dynamics and stress fiber formation during cell migration (PubMed:33999101, PubMed:35293963). The ECS(ASB7) complex acts a negative regulator of H3K9me3 histone mark by mediating ubiquitination and degradation of SUV39H1 (PubMed:40440427). As part of the ECS(LRRC58) complex, mediates CDO1 ubiquitination and degradation, regulating cysteine catabolism (PubMed:40963025). May form a cell surface vasopressin receptor (PubMed:9037604).
Cellular Location	Nucleus. Note=Localizes to sites of DNA damage in a UBAP2 and UBAP2L-dependent manner.

Background

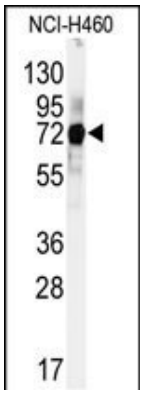
CUL5 is a core component of multiple SCF-like ECS (Elongin-Cullin 2/5-SOCS-box protein) E3 ubiquitin-protein ligase complexes, which mediate the ubiquitination and subsequent proteasomal degradation of target proteins. As a scaffold protein may contribute to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme. The functional specificity of the E3 ubiquitin-protein ligase complex depends on the variable substrate recognition component. ECS(SOCS1) seems to direct ubiquitination of JAk2. It seems to be involved poteosomal degradation of p53/TP53 stimulated by adenovirus E1B-55 kDa protein and may form a cell surface vasopressin receptor.

References

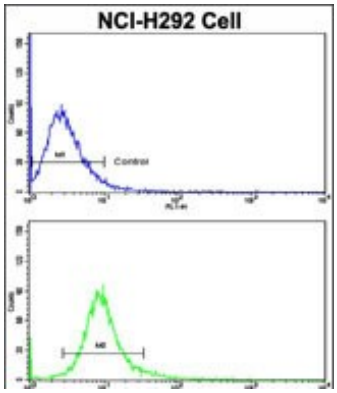
Kamura T., Burian D., Yan Q.J. Biol. Chem. 276:29748-29753(2001)

Mehle A., Goncalves J., Santa-Marta M.Genes Dev. 18:2861-2866(2004)
Kamura T., Maenaka K., Kotoshiba S.Genes Dev. 18:3055-3065(2004)

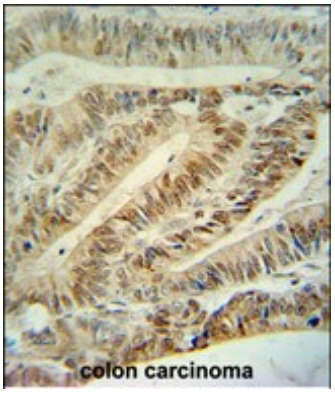
Images



Western blot analysis of anti-CUL5 Antibody (C-term)(Cat.#AP7577b) in Hela cell line lysates (35ug/lane). CUL5 (arrow) was detected using the purified Pab.



Flow cytometric analysis of NCI-H292 cells using CUL5 Antibody (C-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



CUL5 Antibody (C-term) (Cat. #AP7577b) immunohistochemistry analysis in formalin fixed and paraffin embedded human colon carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the CUL5 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

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