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Cullin 5/CUL-5 Rabbit mAb

Catalog # AP75307

Product Information

Application	WB
Primary Accession	Q93034
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	90955

Additional Information

Gene ID	8065
Other Names	CUL5
Dilution	WB~~1:1000-1:5000
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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).

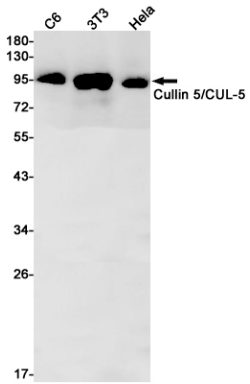
Cellular Location

Nucleus. Note=Localizes to sites of DNA damage in a UBAP2 and UBAP2L-dependent manner.

Background

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. Seems to be involved in proteosomal degradation of p53/TP53 stimulated by adenovirus E1B-55 kDa protein. May form a cell surface vasopressin receptor.

Images



Western blot analysis of Cullin 5/CUL5 in C6, 3T3, Hela lysates using Cullin 5 antibody.

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