

CUL1 Antibody

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For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, R	90 kDa	Rabbit**

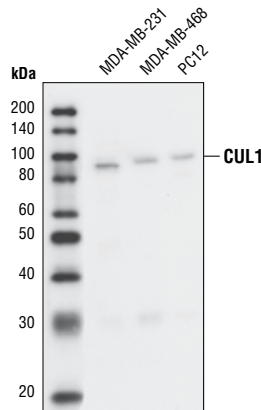
Background: Ubiquitin can be covalently linked to many cellular proteins by the ubiquitination process, which targets proteins for degradation by the 26S proteasome. Three components are involved in the target protein-ubiquitin conjugation process. Ubiquitin is first activated by forming a thiolester complex with the activation component E1; the activated ubiquitin is subsequently transferred to the ubiquitin-carrier protein E2, then from E2 to ubiquitin ligase E3 for final delivery to the ϵ -NH₂ of the target protein lysine residue (1-3). Combinatorial interactions of different E2 and E3 proteins result in substrate specificity (4). Recent data suggest that activated E2 associates transiently with E3, and that the dissociation is a critical step for ubiquitination (5). Cullin homolog 1 (CUL1), the mammalian homolog of Cdc53 from yeast, is a molecular scaffold of the SCF (Skp1/CUL1/F-box) E3 ubiquitin ligase protein complex. Thus, CUL1 and its family members function in ubiquitin dependent proteolysis (6). In particular, CUL1 has been shown to mediate ubiquitin dependent degradation of p21 Waf1/Cip1, cyclin D and I κ B- α (7,8).

Specificity/Sensitivity: The CUL1 Antibody detects endogenous levels of CUL1 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues of human CUL1. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Ciechanover, A. (1998) *EMBO J.* 17, 7151–7160.
- (2) Hochstrasser, M. (2000) *Nat Cell Biol.* 2, E153–E157.
- (3) Hochstrasser, M. (2000) *Science* 289, 563–564.
- (4) DeSalle, L.M. and Pagano, M. (2001) *FEBS Lett.* 490, 179–189.
- (5) Deffenbaugh, A.E. et al. (2003) *Cell* 114, 611–622.
- (6) Pan, Z.Q. et al. (2004) *Oncogene.* 23, 1985–1997.
- (7) Yu, Z.K. et al. (1998) *Proc Natl Acad Sci.* 95, 11324–11329.
- (8) Read, M.A. et al. (2000) *Mol Cell Biol.* 20, 2326–2333.



Western blot analysis of extracts from MDA-MB-231, MDA-MB-468 and PC12 cells using CUL1 Antibody.

Entrez-Gene ID #8454
Swiss-Prot Acc. #Q13616

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000
Immunoprecipitation 1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.