

CUL-1 (H-213): sc-11384

BACKGROUND

Cullin proteins comprise a distinct family of mediators that participate in the selective targeting of proteins for ubiquitin (Ub)-mediated proteolysis. CUL-1, which is the mammalian homolog of yeast Cdc53, is an integral component of the E3 ubiquitin ligase complex designated SCF. The SCF (Skp1/CUL-1/F-box protein complex) consists of Skp1 associating with both CUL-1 and an F-box protein, such as Skp2, which determines the substrate specificity of the complex. CUL-1-mediated ubiquitination results in the degradation of cell cycle proteins cyclin D, p21 and cyclin E. Another cullin, CUL-3, facilitates the degradation of cyclin E independent of SCF activity, while CUL-2 associates with the tumor suppressing protein VHL and elongin B to form VBC complexes, which structurally resemble the SCF ligase. Proteolysis also occurs by way of CUL-4 associating with Nedd-8, a ubiquitin-like protein, where it too functions as an active component of a multifunctional E3 complex. CUL-5, also designated vasopressin-activated, calcium-mobilizing protein (VACM-1), is also included in the cullin family as it shares substantial sequence homology with CUL-1.

CHROMOSOMAL LOCATION

Genetic locus: CUL1 (human) mapping to 7q36.1; Cul1 (mouse) mapping to 6 B2.3.

SOURCE

CUL-1 (H-213) is a rabbit polyclonal antibody raised against amino acids 57-269 mapping near the N-terminus of CUL-1 (cullin-1) of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CUL-1 (H-213) is recommended for detection of CUL-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CUL-1 (H-213) is also recommended for detection of CUL-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CUL-1 siRNA (h): sc-35126, CUL-1 siRNA (m): sc-35127, CUL-1 shRNA Plasmid (h): sc-35126-SH, CUL-1 shRNA Plasmid (m): sc-35127-SH, CUL-1 shRNA (h) Lentiviral Particles: sc-35126-V and CUL-1 shRNA (m) Lentiviral Particles: sc-35127-V.

Molecular Weight of CUL-1: 85 kDa.

Positive Controls: JAR cell lysate: sc-2276, HeLa whole cell lysate: sc-2200 or HOS cell lysate: sc-2275.

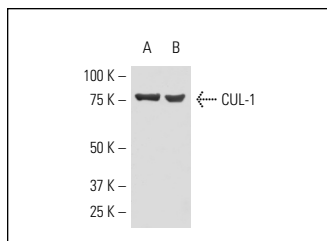
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

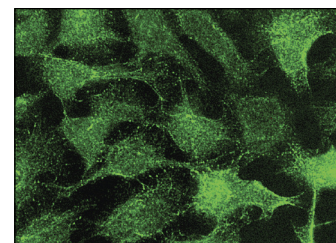
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



CUL-1 (H-213): sc-11384. Western blot analysis of CUL-1 expression in JAR (A) and HOS (B) whole cell lysates.



CUL-1 (H-213): sc-11384. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Huang, Y.C., et al. 2002. Mechanisms underlying nonsteroidal anti-inflammatory drug-induced p27^{Kip1} expression. *Mol. Pharmacol.* 62: 1515-1521.
- Huang, D.T., et al. 2009. E2-RING expansion of the NEDD8 cascade confers specificity to cullin modification. *Mol. Cell* 33: 483-495.
- Tan, M., et al. 2010. Disruption of Sag/Rbx2/Roc2 induces radiosensitization by increasing ROS levels and blocking NFκB activation in mouse embryonic stem cells. *Free Radic. Biol. Med.* 49: 976-983.
- Zhao, Y., et al. 2011. DEPTOR, an mTOR inhibitor, is a physiological substrate of SCF(βTrCP) E3 ubiquitin ligase and regulates survival and autophagy. *Mol. Cell* 44: 304-316.
- Wei, D., et al. 2011. Radiosensitization of human pancreatic cancer cells by MLN4924, an investigational NEDD8-activating enzyme inhibitor. *Cancer Res.* 72: 282-293.
- Tan, M., et al. 2011. Inactivation of SAG E3 ubiquitin ligase blocks embryonic stem cell differentiation and sensitizes leukemia cells to retinoid acid. *PLoS ONE* 6: e27726.
- Luo, Z., et al. 2012. The Nedd8-activating enzyme inhibitor MLN4924 induces autophagy and apoptosis to suppress liver cancer cell growth. *Cancer Res.* 72: 3360-3371.
- Zhao, Y., et al. 2012. Targeting Cullin-RING ligases by MLN4924 induces autophagy via modulating the HIF1-REDD1-TSC1-mTORC1-DEPTOR axis. *Cell Death Dis.* 3: e386.
- Yang, D., et al. 2012. The p21-dependent radiosensitization of human breast cancer cells by MLN4924, an investigational inhibitor of NEDD8 activating enzyme. *PLoS ONE* 7: e34079.



Try **CUL-1 (D-5): sc-17775** or **CUL-1 (AS97): sc-12761**, our highly recommended monoclonal alternatives to CUL-1 (H-213). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **CUL-1 (D-5): sc-17775**.