SANTA CRUZ BIOTECHNOLOGY, INC.

CUL-3 (C-18): sc-8556



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 NEDD8, 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.

REFERENCES

- 1. Kipreos, E.T., et al. 1996. Cul-1 is required for cell cycle exit in *C. elegans* and identifies a novel gene family. Cell 85: 829-839.
- Byrd, P.J., et al. 1997. Identification and analysis of expression of human VACM-1, a cullin gene family member located on chromosome 11q22-23. Genome Res. 7: 71-75.
- Yu, Z.K., et al. 1998. Human CUL-1 associates with the SKP1/SKP2 complex and regulates p21 (CIP1/WAF1) and cyclin D proteins. Proc. Natl. Acad. Sci. USA 95: 11324-11329.

CHROMOSOMAL LOCATION

Genetic locus: CUL3 (human) mapping to 2q36.2; Cul3 (mouse) mapping to 1 C4.

SOURCE

CUL-3 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CUL-3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8556 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **D0 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.

APPLICATIONS

CUL-3 (C-18) is recommended for detection of CUL-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-3 (C-18) is also recommended for detection of CUL-3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CUL-3 siRNA (h): sc-35130, CUL-3 siRNA (m): sc-35131, CUL-3 shRNA Plasmid (h): sc-35130-SH, CUL-3 shRNA Plasmid (m): sc-35131-SH, CUL-3 shRNA (h) Lentiviral Particles: sc-35130-V and CUL-3 shRNA (m) Lentiviral Particles: sc-35131-V.

Molecular Weight of CUL-3: 89 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

DATA





CUL-3 (C-18): sc-8556. Western blot analysis of CUL-3 expression in NIH/3T3 whole cell lysate.

CUL-3 (C-18): sc-8556. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Wilkins, A., et al. 2004. RhoBTB2 is a substrate of the mammalian Cul-3 ubiquitin ligase complex. Genes Dev. 18: 856-861.
- 2. Cullinan, S.B., et al. 2004. The Keap1-BTB protein is an adaptor that bridges Nrf2 to a Cul-3-based E3 ligase: oxidative stress sensing by a Cul-3-Keap1 ligase. Mol. Cell. Biol. 24: 8477-8486.
- Rondou, P., et al. 2008. BTB Protein KLHL12 targets the dopamine D4 receptor for ubiquitination by a Cul3-based E3 ligase. J. Biol. Chem. 283: 11083-11096.
- Tang, W., et al. 2013. Aberrant reduction of MiR-141 increased CD47/CUL3 in Hirschsprung's disease. Cell. Physiol. Biochem. 32: 1655-1667.

MONOS Satisfation Guaranteed

Try CUL-3 (G-8): sc-166110 or CUL-3 (C-3): sc-166054, our highly recommended monoclonal aternatives to CUL-3 (C-18).