SANTA CRUZ BIOTECHNOLOGY, INC.

CUL-5 (H-300): sc-13014

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Cdc53 from yeast, 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, or 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: CUL5 (human) mapping to 11q22.3; Cul5 (mouse) mapping to 9 A5.3.

SOURCE

CUL-5 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of CUL-5 (cullin-5) 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-5 (H-300) is recommended for detection of CUL-5 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), immunohistochemistry (including paraffin-embedded sections) (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-5 (H-300) is also recommended for detection of CUL-5 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for CUL-5 siRNA (h): sc-37574, CUL-5 siRNA (m): sc-37575, CUL-5 shRNA Plasmid (h): sc-37574-SH, CUL-5 shRNA Plasmid (m): sc-37575-SH, CUL-5 shRNA (h) Lentiviral Particles: sc-37574-V and CUL-5 shRNA (m) Lentiviral Particles: sc-37575-V.

Positive Controls: HeLa whole cell lysate: sc-2200, T-47D cell lysate: sc-2293 or SK-BR-3 cell lysate: sc-2218.

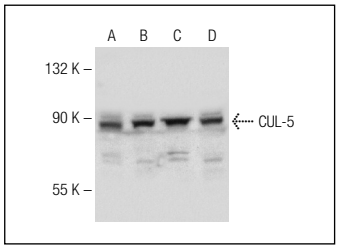
STORAGE

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

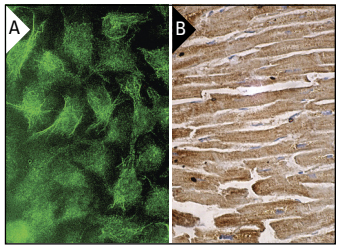
RESEARCH USE

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

DATA



CUL-5 (H-300): sc-13014. Western blot analysis of CUL-5 expression in HeLa (**A**), SKBR-3 (**B**), T-47D (**C**) and MOLT-4 (**D**) whole cell lysates.



CUL-5 (H-300): sc-13014. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Kohroki, J., et al. 2005. ASB proteins interact with Cullin5 and Rbx2 to form E3 ubiquitin ligase complexes. FEBS Lett. 579: 6796-6802.
2. Dallaire, F., et al. 2009. Identification of integrin α3 as a new substrate of the adenovirus E4orf6/E1B 55-kilodalton E3 ubiquitin ligase complex. J. Virol. 83: 5329-5338.
3. Dallaire, F., et al. 2009. A proteomic approach to identify candidate substrates of human adenovirus E4orf6-E1B55K and other viral cullin-based E3 ubiquitin ligases. J. Virol. 83: 12172-12184.
4. Meyer-Schaller, N., et al. 2009. The human Dcn1-like protein DCNL3 promotes Cul3 neddylation at membranes. Proc. Natl. Acad. Sci. USA 106: 12365-12370.
5. Huang, D.T., et al. 2009. E2-RING expansion of the NEDD8 cascade confers specificity to cullin modification. Mol. Cell 33: 483-495.
6. Farris, K.D., et al. 2010. Adeno-associated virus small rep proteins are modified with at least two types of polyubiquitination. J. Virol. 84: 1206-1211.
7. Li, X., et al. 2011. Kaposi's sarcoma-associated herpesvirus-encoded latency-associated nuclear antigen reduces interleukin-8 expression in endothelial cells and impairs neutrophil chemotaxis by degrading nuclear p65. J. Virol. 85: 8606-8615.
8. Tan, M., et al. 2011. SAG/RBX2/ROC2 E3 ubiquitin ligase is essential for vascular and neural development by targeting NF1 for degradation. Dev. Cell 21: 1062-1076.