SANTA CRUZ BIOTECHNOLOGY, INC.

CUL-5 (F-6): sc-373822

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 (F-6) is a mouse monoclonal 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CUL-5 (F-6) is available conjugated to agarose (sc-373822 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373822 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373822 PE), fluorescein (sc-373822 FITC), Alexa Fluor® 488 (sc-373822 AF488), Alexa Fluor® 546 (sc-373822 AF546), Alexa Fluor® 594 (sc-373822 AF594) or Alexa Fluor® 647 (sc-373822 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373822 AF680) or Alexa Fluor® 790 (sc-373822 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CUL-5 (F-6) is recommended for detection of CUL-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

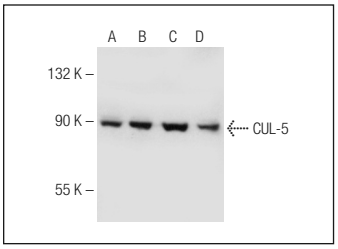
CUL-5 (F-6) is also recommended for detection of CUL-5 in additional species, including equine, bovine and porcine.

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.

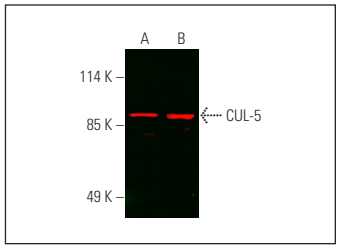
STORAGE

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

DATA



CUL-5 (F-6): sc-373822. 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 (F-6): sc-373822. Near-infrared western blot analysis of CUL-5 expression in F9 (**A**) and MOLT-4 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Uematsu, K., et al. 2016. ASB7 regulates spindle dynamics and genome integrity by targeting DDA3 for proteasomal degradation. J. Cell Biol. 215: 95-106.
2. Zhou, H., et al. 2018. High-affinity peptidomimetic inhibitors of the DCN1-UBC12 protein-protein interaction. J. Med. Chem. 61: 1934-1950.
3. Zhou, W., et al. 2018. UBE2M is a stress-inducible dual E2 for neddylation and ubiquitylation that promotes targeted degradation of UBE2F. Mol. Cell 70: 1008-1024.e6.
4. Li, Y., et al. 2018. Heterozygous deletion of chromosome 17p renders prostate cancer vulnerable to inhibition of RNA polymerase II. Nat. Commun. 9: 4394.
5. Zhao, G., et al. 2019. Cullin5 deficiency promotes small-cell lung cancer metastasis by stabilizing Integrin β1. J. Clin. Invest. 129: 972-987.
6. Yu, Q., et al. 2020. Gossypol inhibits cullin neddylation by targeting SAG-CUL5 and RBX1-CUL1 complexes. Neoplasia 22: 179-191.
7. Mayor-Ruiz, C., et al. 2020. Rational discovery of molecular glue degraders via scalable chemical profiling. Nat. Chem. Biol. 16: 1199-1207.
8. Jia, Y., et al. 2021. Th1 cytokine interferon γ improves response in HER2 breast cancer by modulating the ubiquitin proteasomal pathway. Mol. Ther. 29: 1541-1556.
9. Zhao, X., et al. 2021. NPRL2 reduces the niraparib sensitivity of castration-resistant prostate cancer via interacting with UBE2M and enhancing neddylation. Exp. Cell Res. 403: 112614.

RESEARCH USE

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