

CUL-2 (C-4): sc-166506

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.

CHROMOSOMAL LOCATION

Genetic locus: CUL2 (human) mapping to 10p11.21; Cul2 (mouse) mapping to 18 A1.

SOURCE

CUL-2 (C-4) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of CUL-2 (cullin-2) of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CUL-2 (C-4) is available conjugated to agarose (sc-166506 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166506 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166506 PE), fluorescein (sc-166506 FITC), Alexa Fluor® 488 (sc-166506 AF488), Alexa Fluor® 546 (sc-166506 AF546), Alexa Fluor® 594 (sc-166506 AF594) or Alexa Fluor® 647 (sc-166506 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166506 AF680) or Alexa Fluor® 790 (sc-166506 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CUL-2 (C-4) is recommended for detection of CUL-2 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).

Suitable for use as control antibody for CUL-2 siRNA (h): sc-35128, CUL-2 siRNA (m): sc-35129, CUL-2 shRNA Plasmid (h): sc-35128-SH, CUL-2 shRNA Plasmid (m): sc-35129-SH, CUL-2 shRNA (h) Lentiviral Particles: sc-35128-V and CUL-2 shRNA (m) Lentiviral Particles: sc-35129-V.

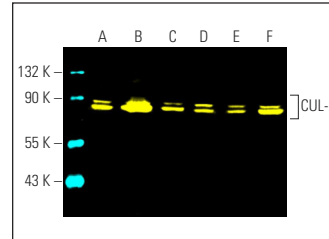
Molecular Weight of CUL-2: 70-80 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, PC-3 cell lysate: sc-2220 or K-562 whole cell lysate: sc-2203.

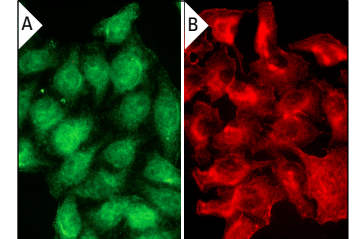
STORAGE

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

DATA



CUL-2 (C-4) Alexa Fluor® 488: sc-166506 AF488. Direct fluorescent western blot analysis of CUL-2 expression in NIH/3T3 (A), PC-3 (B), Raji (C), Sol8 (D), C6 (E) and K-562 (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 647: sc-516791.



CUL-2 (C-4): sc-166506. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization. Secondary antibody tested: chicken anti-mouse IgG-TR: sc-3924 (B).

SELECT PRODUCT CITATIONS

- Levay, K. and Slepak, V.Z. 2014. Regulation of Cop9 signalosome activity by the EF-hand Ca²⁺-binding protein tescalcin. *J. Cell Sci.* 127: 2448-2459.
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- Uematsu, K., et al. 2016. ASB7 regulates spindle dynamics and genome integrity by targeting DDA3 for proteasomal degradation. *J. Cell Biol.* 215: 95-106.
- Sun, W., et al. 2017. Interaction between von Hippel-Lindau protein and fatty acid synthase modulates hypoxia target gene expression. *Sci. Rep.* 7: 7190.
- Lin, H.C., et al. 2018. C-terminal end-directed protein elimination by CRL2 ubiquitin ligases. *Mol. Cell* 70: 602-613.e3.
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- Mena, E.L., et al. 2021. ORF10-Cullin-2-ZYG11B complex is not required for SARS-CoV-2 infection. *Proc. Natl. Acad. Sci. USA* 118: e2023157118.
- Zhou, H., et al. 2021. Selective inhibition of cullin 3 neddylation through covalent targeting DCN1 protects mice from acetaminophen-induced liver toxicity. *Nat. Commun.* 12: 2621.

RESEARCH USE

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

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