

# CUL-1 (AS97): sc-12761

## 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 (AS97) is a mouse monoclonal antibody raised against recombinant CUL-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CUL-1 (AS97) is available conjugated to agarose (sc-12761 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12761 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12761 PE), fluorescein (sc-12761 FITC), Alexa Fluor® 488 (sc-12761 AF488), Alexa Fluor® 546 (sc-12761 AF546), Alexa Fluor® 594 (sc-12761 AF594) or Alexa Fluor® 647 (sc-12761 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12761 AF680) or Alexa Fluor® 790 (sc-12761 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

CUL-1 (AS97) 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) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

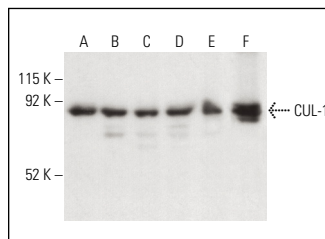
Molecular Weight of CUL-1: 85 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, T24 cell lysate: sc-2292 or JAR cell lysate: sc-2276.

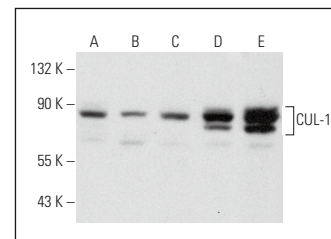
## STORAGE

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

## DATA



CUL-1 (AS97): sc-12761. Western blot analysis of CUL-1 expression in T24 (A), CCRF-CEM (B), AML-193 (C), HeLa (D), JAR (E) and 3T3-L1 (F) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



CUL-1 (AS97): sc-12761. Western blot analysis of CUL-1 expression in T24 (A), CCRF-CEM (B), AML-193 (C), NIH/3T3 (D) and 3T3-L1 (E) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Alao, J.P., et al. 2004. Histone deacetylase inhibitor trichostatin A represses estrogen receptor  $\alpha$ -dependent transcription and promotes proteasomal degradation of cyclin D1 in human breast carcinoma cell lines. *Clin. Cancer Res.* 10: 8094-8104.
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- Sá-Pessoa, J., et al. 2020. *Klebsiella pneumoniae* reduces SUMOylation to limit host defense responses. *mBio* 11: e01733-20.
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- Xian, W., et al. 2024. The *Shigella* kinase effector OspG modulates host ubiquitin signaling to escape septin-cage entrapment. *Nat. Commun.* 15: 3890.

## RESEARCH USE

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