SANTA CRUZ BIOTECHNOLOGY, INC.

CUL-1 (N-19): sc-8552

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 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 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CUL-1 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.

Blocking peptide available for competition studies, sc-8552 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CUL-1 (N-19) 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), 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-1 (N-19) is also recommended for detection of CUL-1 in additional species, including equine, canine, bovine, porcine and avian.

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.

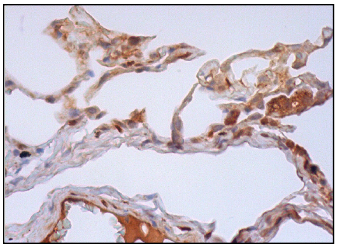
Molecular Weight of CUL-1: 85 kDa.

Positive Controls: JAR cell lysate: sc-2276, HeLa whole cell lysate: sc-2200 or HOS cell lysate: sc-2275.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



CUL-1 (N-19): sc-8552. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and nuclear staining of pneumocytes and cytoplasmic staining of macrophages.

SELECT PRODUCT CITATIONS

1. Davis, M., et al. 2002. Pseudosubstrate regulation of the SCF (β-TrCP) ubiquitin ligase by hnRNP-U. Genes Dev. 16: 439-451.
2. Liu, J., et al. 2002. NEDD8 modification of CUL1 dissociates $p120^{CAND1}$, an inhibitor of CUL1-SKP1 binding and SCF ligases. Mol. Cell 10: 1511-1518.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.