3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Anti-Cullin-1
produced in rabbit, affinity isolated antibody

Catalog Number C7117

Product Description

Anti-Cullin-1 is produced in rabbit using as immunogen, a synthetic peptide located at the C-terminus of human cullin-1 (amino acids 759-776), conjugated to KLH. This sequence is identical in mouse cullin-1 and highly conserved (83% identity) in *Drosophila* cullin-1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Cullin-1 recognizes human Cullin-1 by immunoblotting, 85 kDa. Staining of the cullin-1 band in immunoblotting is specifically inhibited by the immunizing peptide.

Ubiquitination plays a central role in regulating the stability and activity of many proteins involved in diverse cellular processes. This process requires the cascade of three enzymatic activities including activation (E1), conjugation (E2), and covalent ligation (E3) of ubiquitin to a substrate.[1] Cullin-1 (Cul1, 85 kDa), belongs to the family of cullin proteins that comprise a distinct group of mediators (at least eight cullin members Cul1-8) that participate in the selective targeting of proteins for ubiquitin-mediated degradation. Cullin-1, the mammalian homolog of the yeast Cdc53, is an integral component of the RING E3 ubiquitin ligase complex SCF that targets the ubiquitination of various proteins involved in cell cycle control and signal transduction.[2] The SCF complex (Skp1/Cul-1/F-box protein), consists of Cullin-1 that functions as a scaffold protein, the adapter molecule Skp1, the small RING finger protein Rbx1/ROC-1/Hrt1 and a member of the F-box family.[3] Cullin-1 and Rbx1 form a catalytic core that recruits a cognate E2, the variable F-box protein subunit recruits the substrate for degradation by the ubiquitin pathway, and Skp1 serves as an adapter that links the F-box protein to cullin-1.[3-5] Cullin-1 mediated ubiquitination results in the degradation of a wide range of substrates including cyclin D, cyclin E, p21, β–catenin, and IκB1.[6-8] Loss of cullin-1 results in early embryonic lethality and deregulation of cyclin E.[9] The large number of F-box proteins (at least 38 in human) is thought to allow the specific ubiquitination of a large number of structurally and functionally diverse substrates. In addition, most higher eukaryotes also contain multiple homologs of the other SCF subunits, including two Rbx1 and at least six cullin members in humans.[2, 10] Most, if not all, cullin proteins are modified by the ubiquitin-like protein NEDD8/Rub1, that substantially enhances the ligase activity of SCF.[11, 12]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide as a preservative.

Antibody concentration: ~0.4 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.5-1 μg/mL is recommended using a whole cell extract of human colon carcinoma HCT-116 cell line, and a whole cell extract of mouse fibroblasts NIH3T3 cell line.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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