

CUL-7 (H-8): sc-514970

BACKGROUND

Cullin proteins comprise a distinct family of mediators that participate in the selective targeting of proteins for ubiquitin (Ub)-mediated proteolysis. CUL-7 mediates the third step of ubiquitin conjugation as part of an SCF-like complex consisting of CUL-7, RBX1, SKP1, FBXW8 and GLMN isoform 1, which interacts with a complex of SKP1 and FBXW8, but not with SKP1 alone. This complex is thought to play a role in the degradation of proteins involved in proliferation and/or differentiation. CUL-7 is highly expressed in fetal kidney and adult skeletal muscle in addition to abundant expression in fetal brain, and adult pancreas, kidney, placenta and heart. It is also detected in trophoblasts, lymphoblasts, osteoblasts, chondrocytes and skin fibroblasts. Defects in the gene encoding CUL-7 result in 3-M syndrome, an autosomal recessive disorder characterized by severe pre- and postnatal growth retardation, facial dysmorphism, large head circumference and skeletal changes, including long slender tubular bones and tall vertebral bodies.

REFERENCES

1. Kipreos, E.T., et al. 1996. CUL-1 is required for cell cycle exit in *C. elegans* and identifies a novel gene family. *Cell* 85: 829-839.
2. Dias, D.C., et al. 2002. CUL7: A DOC domain-containing cullin selectively binds Skp1.Fbx29 to form an SCF-like complex. *Proc. Natl. Acad. Sci. USA* 99: 16601-16606.
3. Arai, T., et al. 2003. Targeted disruption of p185/Cul7 gene results in abnormal vascular morphogenesis. *Proc. Natl. Acad. Sci. USA* 100: 9855-9860.
4. Huber, C., et al. 2005. Identification of mutations in CUL7 in 3-M syndrome. *Nat. Genet.* 37: 1119-1124.
5. Skaar, J.R., et al. 2005. Dimerization of CUL7 and PARC is not required for all CUL7 functions and mouse development. *Mol. Cell. Biol.* 25: 5579-5589.
6. Andrews, P., et al. 2006. Cytoplasmic localized ubiquitin ligase growth by antagonizing p53 function. *Oncogene* 25: 4534-4548.
7. Kasper, J.S., et al. 2006. A novel p53-binding domain in CUL7. *Biochem. Biophys. Res. Commun.* 348: 132-138.

CHROMOSOMAL LOCATION

Genetic locus: CUL7 (human) mapping to 6p21.1; Cul7 (mouse) mapping to 17 C.

SOURCE

CUL-7 (H-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1661-1680 at the C-terminus of CUL-7 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-514970 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CUL-7 (H-8) is recommended for detection of CUL-7 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-7 siRNA (h): sc-60471, CUL-7 siRNA (m): sc-60472, CUL-7 shRNA Plasmid (h): sc-60471-SH, CUL-7 shRNA Plasmid (m): sc-60472-SH, CUL-7 shRNA (h) Lentiviral Particles: sc-60471-V and CUL-7 shRNA (m) Lentiviral Particles: sc-60472-V.

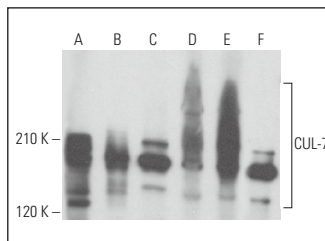
Molecular Weight of CUL-7: 185 kDa.

Positive Controls: T98G cell lysate: sc-2294, Hep G2 cell lysate: sc-2227 or SH-SY5Y cell lysate: sc-3812.

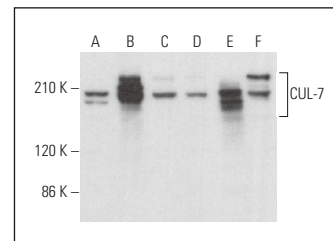
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CUL-7 (H-8): sc-514970. Western blot analysis of CUL-7 expression in T98G (A), U-2 OS (B), Hep G2 (C), 3T3-L1 (D) and NIH/3T3 (E) whole cell lysates and rat eye tissue extract (F).



CUL-7 (H-8): sc-514970. Western blot analysis of CUL-7 expression in IMR-32 (A), SH-SY5Y (B), Neuro-2A (C), EOC 20 (D), C6 (E) and c4 (F) whole cell lysates.

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 for detailed protocols and support products.