# CUL-7 (h): 293T Lysate: sc-115286



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-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 normal intelligence and endocrine function as well as skeletal changes including long slender tubular bones and tall vertebral bodies.

## **REFERENCES**

- Kipreos, E.T., Lander, L.E., Wing, J.P., He, W.W. and Hedgecock, E.M. 1996. CUL-1 is required for cell cycle exit in *C. elegans* and identifies a novel gene family. Cell 85: 829-39.
- Dias, D.C., Dolios, G., Wang, R. and Pan, Z.O. 2002. CUL-7: A DOC domain-containing cullin selectively binds Skp1.Fbx29 to form an SCF-like complex. Proc. Natl. Acad. Sci. USA 99: 16601-16606.
- Arai, T., Kasper, J.S., Skaar, J.R., Ali, S.H., Takahashi, C. and DeCaprio, J.A. 2003. Targeted disruption of p185/CUL-7 gene results in abnormal vascular morphogenesis. Proc. Natl. Acad. Sci. USA 100: 9855-9860.
- 4. Huber, C., Dias-Santagata, D., Glaser, A., O'Sullivan, J., Brauner, R., Wu, K., Xu, X., Pearce, K., Wang, R., Uzielli, M.L., Dagoneau, N., Chemaitilly, W., Superti-Furga, A., Dos Santos, H., Mégarbané, A., Morin, G., Gillessen-Kaesbach, G., Hennekam, R., Van der Burgt, I., Black, G.C., et al. 2005. Identification of mutations in CUL-7 in 3-M syndrome. Nat. Genet. 37: 1119-1124.
- Skaar, J.R., Arai, T. and DeCaprio, J.A. 2005. Dimerization of CUL-7 and PARC is not required for all CUL-7 functions and mouse development. Mol. Cell. Biol. 25: 5579-5589.
- 6. Andrews, P., He, Y.J. and Xiong, Y. 2006. Cytoplasmic localized ubiquitin ligase growth by antagonizing p53 function. Oncogene 25: 4534-4548.
- 7. Kasper, J.S., Arai, T. and DeCaprio, J.A. 2006. A novel p53-binding domain in CUL-7. Biochem. Biophys. Res. Commun. 348: 132-138.
- 8. Tsunematsu, R., Nishiyama, M., Kotoshiba, S., Saiga, T., Kamura, T. and Nakayama, K.I. 2006. Fbxw8 is essential for CUL-1-CUL-7 complex formation and for placental development. Mol. Cell. Biol. 26: 6157-6169.

# **CHROMOSOMAL LOCATION**

Genetic locus: CUL7 (human) mapping to 6p21.1.

## **RESEARCH USE**

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

### **PRODUCT**

CUL-7 (h): 293T Lysate represents a lysate of human CUL-7 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## **APPLICATIONS**

CUL-7 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CUL-7 antibodies. Recommended use: 10-20 µl per lane.

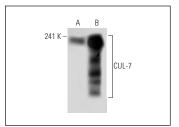
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Either CUL-7 (AB13): sc-53809 or CUL-7 (AB38): sc-53810 is recommended as a positive control antibody for Western Blot analysis of enhanced human CUL-7 expression in CUL-7 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

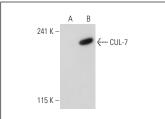
### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG $\kappa$  BP-HRP: sc-516102 or m-lgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

### **DATA**



CUL-7 (AB38): sc-53810. Western blot analysis of CUL-7 expression in non-transfected: sc-117752 (A) and human CUL-7 transfected: sc-115286 (B) 293T whole cell Ivsates.



CUL-7 (AB13): sc-53809. Western blot analysis of CUL-7 expression in non-transfected: sc-117752 (A) and human CUL-7 transfected: sc-115286 (B) 293T whole cell Ivsates.

### **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## **PROTOCOLS**

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com