

CUL-7 (AB38): sc-53810

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.

CHROMOSOMAL LOCATION

Genetic locus: CUL7/CUL9 (human) mapping to 6p21.1; Cul7/Cul9 (mouse) mapping to 17 C.

SOURCE

CUL-7 (AB38) is a mouse monoclonal antibody raised against amino acids 835-842 of CUL-7 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CUL-7 (AB38) is available conjugated to agarose (sc-53810 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53810 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53810 PE), fluorescein (sc-53810 FITC), Alexa Fluor® 488 (sc-53810 AF488), Alexa Fluor® 546 (sc-53810 AF546), Alexa Fluor® 594 (sc-53810 AF594) or Alexa Fluor® 647 (sc-53810 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53810 AF680) or Alexa Fluor® 790 (sc-53810 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CUL-7 (AB38) is recommended for detection of CUL-7 and PARC of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

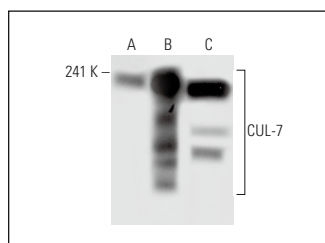
Molecular Weight of CUL-7: 185 kDa.

Positive Controls: CUL-7 (h): 293T Lysate: sc-115286, T98G cell lysate: sc-2294 or U-2 OS cell lysate: sc-2295.

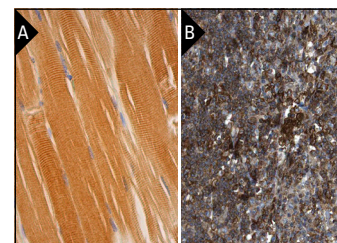
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CUL-7 (AB38): sc-53810. Western blot analysis of CUL-7 expression in non-transfected 293T: sc-117752 (A), human CUL-7 transfected 293T: sc-115286 (B) and T98G (C) whole cell lysates.



CUL-7 (AB38): sc-53810. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of lymphoid cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Li, Y., et al. 2018. Heterozygous deletion of chromosome 17p renders prostate cancer vulnerable to inhibition of RNA polymerase II. *Nat. Commun.* 9: 4394.
- Peng, Q., et al. 2020. The small molecule PSSM0332 disassociates the CRL4^{DCAF8} E3 ligase complex to decrease the ubiquitination of NcoR1 and inhibit the inflammatory response in a mouse sepsis-induced myocardial dysfunction model. *Int. J. Biol. Sci.* 16: 2974-2988.
- Blondelle, J., et al. 2020. The role of cullin-RING ligases in striated muscle development, function, and disease. *Int. J. Mol. Sci.* 21: 7936.

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.