

CUL-4A (K-16): sc-50919

BACKGROUND

CUL-4A is a member of the cullin family of proteins that is involved in the ubiquitin-mediated degradation of cell cycle regulators. CUL-4A regulates cell cycle progression during differentiation, and overexpression of this protein significantly increases the number of cells in S phase and reduces the number that accumulate in G₀/G₁ phase. CUL-4A localizes to the cytoplasm where it stimulates ubiquitylation and degradation of the HoxA9 homeodomain protein, a key regulator of hematopoiesis and embryonic development. CUL-4A also stimulates the degradation of the damaged DNA-binding protein (DDB) that plays a role in DNA repair and is involved in the repair deficiency disease xeroderma pigmentosum. The CUL-4A gene is amplified and overexpressed in breast cancer, implicating the protein in tumorigenesis and/or tumor progression.

REFERENCES

- Chen, L.C., et al. 1998. The human homologue for the *Caenorhabditis elegans* CUL-4 gene is amplified and overexpressed in primary breast cancers. *Cancer Res.* 58: 3677-3683.
- Osaka, F., et al. 1998. A new NEDD8-ligating system for cullin-4A. *Genes Dev.* 12: 2263-2268.
- Shiyonov, P., et al. 2000. Cullin-4A associates with the UV-damaged DNA-binding protein DDB. *J. Biol. Chem.* 274: 35309-35312.
- Chen, X., et al. 2001. UV-damaged DNA-binding proteins are targets of CUL-4A-mediated ubiquitination and degradation. *J. Biol. Chem.* 276: 48175-48182.
- Gupta, A., et al. 2002. Study of the G₂/M cell cycle checkpoint overexpressing CUL-4A gene. *Int. J. Radiat. Oncol. Biol. Phys.* 52: 822-830.
- Li, B., et al. 2002. CUL-4A is critical for early embryonic development. *Mol. Cell. Biol.* 22: 4997-5005.

CHROMOSOMAL LOCATION

Genetic locus: CUL4A (human) mapping to 13q34; Cul4a (mouse) mapping to 8 A1.1.

SOURCE

CUL-4A (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CUL-4A 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-50919 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

CUL-4A (K-16) is recommended for detection of CUL-4A of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CUL-4A siRNA (h): sc-44355, CUL-4A siRNA (m): sc-60470, CUL-4A shRNA Plasmid (h): sc-44355-SH, CUL-4A shRNA Plasmid (m): sc-60470-SH, CUL-4A shRNA (h) Lentiviral Particles: sc-44355-V and CUL-4A shRNA (m) Lentiviral Particles: sc-60470-V.

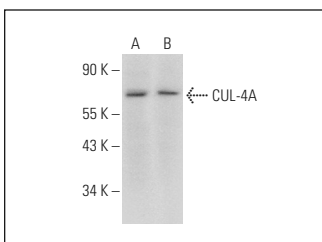
Molecular Weight of CUL-4A: 88 kDa.

Positive Controls: mouse placenta extract: sc-364247 or mouse lung extract: sc-2390.

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.

DATA



CUL-4A (K-16): sc-50919. Western blot analysis of CUL-4A expression in mouse placenta (A) and mouse lung (B) tissue extracts.

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.

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Try **CUL-4 (H-11): sc-377188**, our highly recommended monoclonal alternative to CUL-4A (K-16).