SANTA CRUZ BIOTECHNOLOGY, INC.

Cdt2 (h): 293T Lysate: sc-113907

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. Cdt2, also known as DTL (denticleless homolog), CDW1, DCAF2, L2DTL or RAMP, is a 730 amino acid protein that localizes to both the cytoplasm and the nuclear membrane and contains seven WD repeats. Expressed in testis, placenta, bone marrow, thymus and skeletal muscle, Cdt2 is required for DNA damage-induced Cdt1 proteolysis and is also thought to play an essential role in DNA replication and cell proliferation. Upon DNA damage, Cdt2 is subject to phosphorylation, probably by ATM or ATR. Two isoforms of Cdt2 exist due to alternative splicing events.

REFERENCES

1. Cheung, W.M., et al. 2001. Cloning and expression of a novel nuclear matrix-associated protein that is regulated during the retinoic acid-induced neuronal differentiation. J. Biol. Chem. 276: 17083-17091.
2. Banks, D., et al. 2006. L2DTL/Cdt2 and PCNA interact with p53 and regulate p53 polyubiquitination and protein stability through MDM2 and CUL-4A/DDB1 complexes. Cell Cycle 5: 1719-1729.
3. Pan, H.W., et al. 2006. Role of L2DTL, cell cycle-regulated nuclear and centrosome protein, in aggressive hepatocellular carcinoma. Cell Cycle 5: 2676-2687.
4. Sansam, C.L., et al. 2006. DTL/Cdt2 is essential for both Cdt1 regulation and the early G_2/M checkpoint. Genes Dev. 20: 3117-3129.
5. Jin, J., et al. 2006. A family of diverse CUL-4-DDB1-interacting proteins includes Cdt2, which is required for S phase destruction of the replication factor Cdt1. Mol. Cell 23: 709-721.
6. Higa, L.A., et al. 2006. CUL-4-DDB1 ubiquitin ligase interacts with multiple WD40-repeat proteins and regulates histone methylation. Nat. Cell Biol. 8: 1277-1283.
7. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610617. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: DTL (human) mapping to 1q32.3.

PRODUCT

Cdt2 (h): 293T Lysate represents a lysate of human Cdt2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

Cdt2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Cdt2 antibodies.

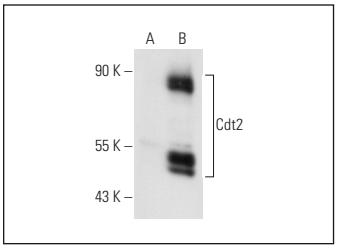
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Cdt2 (B-8): sc-166735 is recommended as a positive control antibody for Western Blot analysis of enhanced human Cdt2 expression in Cdt2 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-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.

DATA



Cdt2 (B-8): sc-166735. Western blot analysis of Cdt2 expression in non-transfected: sc-117752 (**A**) and human Cdt2 transfected: sc-113907 (**B**) 293T whole cell lysates.

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.