SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc40 (h): 293T Lysate: sc-111958

BACKGROUND

Cell cycle events are regulated by the sequential activation and deactivation of cyclin dependent kinases (Cdks) and by the proteolysis of cyclins. The cell division control (Cdc) genes are required at various points in the cell cycle. Cdc40, also known as pre-mRNA-processing factor 17 (PRPF17) or EH-binding protein 3 (EHB3), is a 579 amino acid nuclear protein. Cdc40 is essential for the catalytic step II of the pre-mRNA splicing process, in which Cdc40 associates with the spliceosome C complex. Cdc40 contains seven WD repeats, which are important in protein-protein interactions. Cdc40 has sequence similarity to the yeast protein Prp17, which is involved in pre-mRNA splicing and cell cycle progression. The sequence similarity between the mammalian Cdc40 and the yeast Prp17 may indicate an additional role in cell cycle progression for mammalian Cdc40.

REFERENCES

1. Zhou, Z. and Reed, R. 1998. Human homologs of yeast prp16 and prp17 reveal conservation of the mechanism for catalytic step II of pre-mRNA splicing. EMBO J. 17: 2095-2106.
2. Lindsey, L.A. and Garcia-Blanco, M.A. 1998. Functional conservation of the human homolog of the yeast pre-mRNA splicing factor Prp17p. J. Biol. Chem. 273: 32771-32775.
3. Ben Yehuda, S., et al. 1998. Identification and functional analysis of hPRP17, the human homologue of the PRP17/Cdc40 yeast gene involved in splicing and cell cycle control. RNA 4: 1304-1312.
4. Ben-Yehuda, S., et al. 2000. Genetic and physical interactions between factors involved in both cell cycle progression and pre-mRNA splicing in *Saccharomyces cerevisiae*. Genetics 156: 1503-1517.
5. Zhou, Z., et al. 2002. Comprehensive proteomic analysis of the human spliceosome. Nature 419: 182-185.
6. Jurica, M.S., et al. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. RNA 8: 426-439.
7. Sapra, A.K., et al. 2004. Genome-wide analysis of pre-mRNA splicing: intron features govern the requirement for the second-step factor, Prp17 in *Saccharomyces cerevisiae* and *Schizosaccharomyces pombe*. J. Biol. Chem. 279: 52437-52446.

CHROMOSOMAL LOCATION

Genetic locus: CDC40 (human) mapping to 6q21.

PRODUCT

Cdc40 (h): 293T Lysate represents a lysate of human Cdc40 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

Cdc40 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Cdc40 antibodies. Recommended use: 10-20 µl per lane.

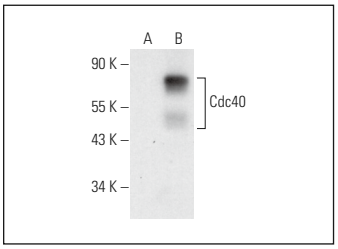
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Cdc40 (H-12): sc-398281 is recommended as a positive control antibody for Western Blot analysis of enhanced human Cdc40 expression in Cdc40 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



Cdc40 (H-12): sc-398281. Western blot analysis of Cdc40 expression in non-transfected: sc-117752 (**A**) and human Cdc40 transfected: sc-111958 (**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.