

Cdc40 (H-12): sc-398281

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

- 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.
- 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.
- 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.
- 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.
- Zhou, Z., et al. 2002. Comprehensive proteomic analysis of the human spliceosome. *Nature* 419: 182-185.
- Jurica, M.S., et al. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. *RNA* 8: 426-439.

CHROMOSOMAL LOCATION

Genetic locus: CDC40 (human) mapping to 6q21; Cdc40 (mouse) mapping to 10 B1.

SOURCE

Cdc40 (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 139-162 within an internal region of Cdc40 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398281 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Cdc40 (H-12) is recommended for detection of Cdc40 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cdc40 siRNA (h): sc-72837, Cdc40 siRNA (m): sc-72838, Cdc40 shRNA Plasmid (h): sc-72837-SH, Cdc40 shRNA Plasmid (m): sc-72838-SH, Cdc40 shRNA (h) Lentiviral Particles: sc-72837-V and Cdc40 shRNA (m) Lentiviral Particles: sc-72838-V.

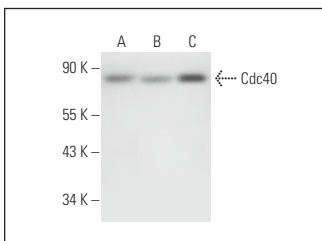
Molecular Weight of Cdc40: 65 kDa.

Positive Controls: Cdc40 (h): 293T Lysate: sc-111958, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

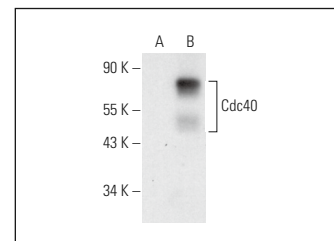
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Cdc40 (H-12): sc-398281. Western blot analysis of Cdc40 expression in K-562 (A), COLO 320DM (B) and Jurkat (C) whole cell lysates.



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.

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.