

CdcA4 (C-20): sc-79897

BACKGROUND

The eukaryotic cell division cycle consists of a number of gene-controlled sequences that involve cyclin dependent kinases (Cdks) and cell division cycle (Cdc) proteins. CdcA4 (cell division cycle associated 4), also known as HEPP (Hematopoietic progenitor protein), is a 241 amino acid protein that contains one SERTA domain and belongs to the E2F family of transcription factors. Localized to the nucleus, CdcA4 participates in the E2F/retinoblastoma pathway and regulates E2F-dependent transcriptional activation and cell proliferation. Additionally, CdcA4 is thought to be involved in spindle pole organization, possibly acting as a midzone factor involved in cytokinesis and chromosome segregation. CdcA4 can also regulate JUN oncogene expression, suggesting a role for CdcA4 in cellular transformation events that lead to tumor development. Multiple isoforms of CdcA4 exist due to alternative splicing events.

REFERENCES

1. Abdullah, J.M., Jing, X., Spassov, D.S., Nachtman, R.G. and Jurecic, R. 2001. Cloning and characterization of HEPP, a novel gene expressed preferentially in hematopoietic progenitors and mature blood cells. *Blood Cells Mol. Dis.* 27: 667-676.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 612270: World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Brandenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J., Li, Y., Xu, C., Fang, R., Guegler, K., Rao, M.S., Mandalam, R., Lebkowski, J. and Stanton, L.W. 2004. Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation. *Nat. Biotechnol.* 22: 707-716.
4. Bennetts, J.S., Fowles, L.F., Berkman, J.L., van Bueren, K.L., Richman, J.M., Simpson, F. and Wicking, C. 2006. Evolutionary conservation and murine embryonic expression of the gene encoding the SERTA domain-containing protein CdcA4 (HEPP). *Gene* 374: 153-165.
5. Hayashi, R., Goto, Y., Ikeda, R., Yokoyama, K.K. and Yoshida, K. 2006. CDCA4 is an E2F transcription factor family-induced nuclear factor that regulates E2F-dependent transcriptional activation and cell proliferation. *J. Biol. Chem.* 281: 35633-35648.
6. Tategu, M., Nakagawa, H., Hayashi, R. and Yoshida, K. 2008. Transcriptional co-factor CDCA4 participates in the regulation of JUN oncogene expression. *Biochimie* 90: 1515-1522.
7. Wang, L., Zhu, G., Yang, D., Li, Q., Li, Y., Xu, X., He, D. and Zeng, C. 2008. The spindle function of CDCA4. *Cell Motil. Cytoskeleton* 65: 581-593.

CHROMOSOMAL LOCATION

Genetic locus: CDCA4 (human) mapping to 14q32.33; Cdca4 (mouse) mapping to 12 F1.

SOURCE

CdcA4 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CdcA4 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-79897 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CdcA4 (C-20) is recommended for detection of CdcA4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CdcA4 (C-20) is also recommended for detection of CdcA4 in additional species, including equine and bovine.

Suitable for use as control antibody for CdcA4 siRNA (h): sc-72841, CdcA4 siRNA (m): sc-72842, CdcA4 shRNA Plasmid (h): sc-72841-SH, CdcA4 shRNA Plasmid (m): sc-72842-SH, CdcA4 shRNA (h) Lentiviral Particles: sc-72841-V and CdcA4 shRNA (m) Lentiviral Particles: sc-72842-V.

Molecular Weight (predicted) of CdcA4: 26 kDa.

Molecular Weight (observed) of CdcA4: 30-32 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

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.

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 or our catalog for detailed protocols and support products.