SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc34 (m): 293T Lysate: sc-119127

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 cycle (Cdc) genes are required at various points in the cell cycle. Cdc25A, Cdc25B and Cdc25C protein tyrosine phosphatases function as mitotic activators by dephosphorylating Cdc2 p34 on regulatory tyrosine residues. Cdc6 is the human homolog of *Saccharomyces cerevisiae* Cdc6, which is involved in the initiation of DNA replication. Cdc37 appears to facilitate Cdk4/cyclin D1 complex formation and has been shown to form a stable complex with HSP 90. Cdc34, Cdc27 and Cdc16 function as ubiquitin-conjugating enzymes. Cdc34 is thought to be the structural and functional homolog of *Saccharomyces cerevisiae* Cdc34, which is essential for the G_1 to S phase transition. Cdc16 and Cdc27 are components of the APC (anaphase-promoting complex) which ubiquitinates cyclin B, resulting in cyclin B/Cdk complex degradation.

REFERENCES

1. Palmer, R.E., et al. 1990. Mitotic transmission of artificial chromosomes in Cdc mutants of the yeast, *Saccharomyces cerevisiae.* Genetics 125: 763-774.
2. Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34Cdc2. Cell 67: 197-211.
3. Plon, S.E., et al. 1993. Cloning of the human homolog of the Cdc34 cell cycle gene by complementation in yeast. Proc. Natl. Acad. Sci. USA 90: 10484-10488.
4. King, R.W., et al. 1995. A 20S complex containing Cdc27 and Cdc16 catalyzes the mitosis-specific conjugation of ubiquitin to cyclin B. Cell 81: 279-288.
5. Barinaga, M. 1995. A new twist to the cell cycle. Science 269: 631-632.
6. Stepanova, L., et al. 1996. Mammalian p50Cdc37 is a protein kinase-targeting subunit of HSP 90 that binds and stabilizes Cdk4. Genes Dev. 10: 1491-1502.
7. Williams, R.S., et al. 1997. A human protein related to yeast Cdc6p. Proc. Natl. Acad. Sci. USA 94: 142-147.
8. Barz, T., et al. 2006. Control of methionine biosynthesis genes by protein kinase CKII-mediated phosphorylation of Cdc34. Cell. Mol. Life Sci. 63: 2183-2190.
9. Hwang, G.W. 2007. A ubiquitin-proteasome system as a factor that determine the sensitivity to methylmercury. Yakugaku Zasshi 127: 463-468.

CHROMOSOMAL LOCATION

Genetic locus: Cdc34 (mouse) mapping to 10 C1.

PRODUCT

Cdc34 (m): 293T Lysate represents a lysate of mouse Cdc34 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Cdc34 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Cdc34 antibodies. Recommended use: 10-20 µl per lane.

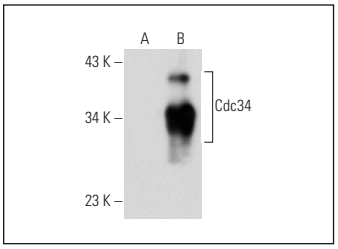
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Cdc34 (G-11): sc-166738 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Cdc34 expression in Cdc34 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

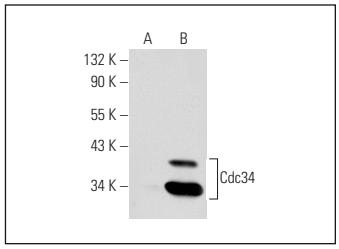
RECOMMENDED SUPPORT REAGENTS

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



Cdc34 (G-11): sc-166738. Western blot analysis of Cdc34 expression in non-transfected: sc-11752 (**A**) and mouse Cdc34 transfected: sc-119127 (**B**) 293T whole cell lysates.



Cdc34 (H-4): sc-28381. Western blot analysis of Cdc34 expression in non-transfected: sc-117752 (**A**) and mouse Cdc34 transfected: sc-119127 (**B**) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.