SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc34 (14B5): sc-56271

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: CDC34 (human) mapping to 19p13.3; Cdc34 (mouse) mapping to 10 C1.

SOURCE

Cdc34 (14B5) is a mouse monoclonal antibody raised against full length human Cdc34.

PRODUCT

Each vial contains 50 µg IgG_1 in 500 µl of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Cdc34 (14B5) is recommended for detection of Cdc34 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cdc34 siRNA (h): sc-35042, Cdc34 siRNA (m): sc-37554, Cdc34 shRNA Plasmid (h): sc-35042-SH, Cdc34 shRNA Plasmid (m): sc-37554-SH, Cdc34 shRNA (h) Lentiviral Particles: sc-35042-V and Cdc34 shRNA (m) Lentiviral Particles: sc-37554-V.

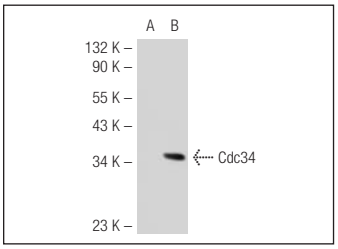
Molecular Weight of Cdc34: 34 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, A-431 nuclear extract: sc-2122 or HeLa nuclear extract: sc-2120.

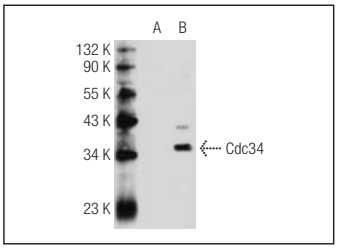
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Cdc34 (14B5): sc-56271. Western blot analysis of Cdc34 expression in non-transfected: sc-117752 (**A**) and mouse Cdc34 transfected: sc-119127 (**B**) 293T whole cell lysates.



Cdc34 (14B5): sc-56271. Western blot analysis of Cdc34 expression in non-transfected: sc-110760 (**A**) and human Cdc34 transfected: sc-113137 (**B**) 293 whole cell lysates.

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.