

# Cdc34 (17): sc-135861

## 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<sub>1</sub> 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

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- Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34Cdc2. *Cell* 67: 197-211.
- 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.
- 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.
- Barinaga, M. 1995. A new twist to the cell cycle. *Science* 269: 631-632.
- 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.
- Williams, R.S., et al. 1997. A human protein related to yeast Cdc6p. *Proc. Natl. Acad. Sci. USA* 94: 142-147.
- 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.
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## CHROMOSOMAL LOCATION

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

## SOURCE

Cdc34 (17) is a mouse monoclonal antibody raised against amino acids 108-298 of Cdc34 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>2a</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

## APPLICATIONS

Cdc34 (17) is recommended for detection of Cdc34 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

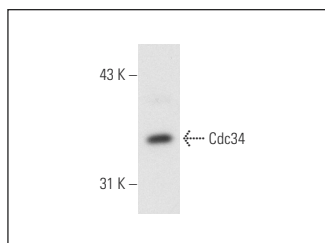
Suitable for use as control antibody for Cdc34 siRNA (h): sc-35042, Cdc34 siRNA (m): sc-37554, Cdc34 shRNA Plasmid (h): sc-35042-SH, Cdc34 shRNA Plasmid (m): sc-37554-SH, Cdc34 shRNA (h) Lentiviral Particles: sc-35042-V and Cdc34 shRNA (m) Lentiviral Particles: sc-37554-V.

Molecular Weight (predicted) of Cdc34: 27 kDa.

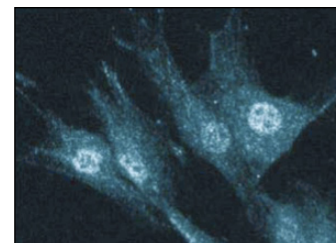
Molecular Weight (observed) of Cdc34: 34 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 nuclear extract: sc-2130 or A-431 nuclear extract: sc-2122.

## DATA



Cdc34 (17): sc-135861. Western blot analysis of Cdc34 expression in K-562 nuclear extract.



Cdc34 (17): sc-135861. Immunofluorescence staining of human fibroblast cells showing nuclear and cytoplasmic staining.

## 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. Not for resale.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.