

Cdc34 (G-11): sc-166738

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 G₁/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

- Palmer, R.E., et al. 1990. Mitotic transmission of artificial chromosomes in Cdc mutants of the yeast, *Saccharomyces cerevisiae*. *Genetics* 125: 763-774.
- Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34^{Cdc2}. *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.

CHROMOSOMAL LOCATION

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

SOURCE

Cdc34 (G-11) is a mouse monoclonal antibody raised against a peptide mapping near the C-terminus of Cdc34 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-166738 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Cdc34 (G-11) is recommended for detection of Cdc34 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

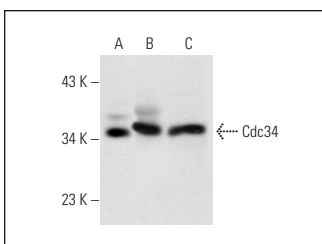
Molecular Weight (observed) of Cdc34: 34 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

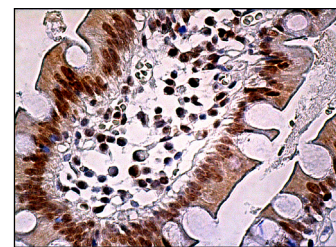
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Cdc34 (G-11): sc-166738. Western blot analysis of Cdc34 expression in Jurkat (A), HeLa (B) and C6 (C) whole cell lysates.



Cdc34 (G-11): sc-166738. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- St-Cyr, D., et al. 2021. Identification and optimization of molecular glue compounds that inhibit a noncovalent E2 enzyme-ubiquitin complex. *Sci. Adv.* 7: eabi5797.

RESEARCH USE

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