

Cdc6 (SPM380): sc-56359

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 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.

CHROMOSOMAL LOCATION

Genetic locus: CDC6 (human) mapping to 17q21.3; Cdc6 (mouse) mapping to 11 D.

SOURCE

Cdc6 (SPM380) is a mouse monoclonal antibody raised against recombinant Cdc6 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 mL PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Cdc6 (SPM380) is recommended for detection of Cdc6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Cdc6 siRNA (h): sc-29258, Cdc6 siRNA (m): sc-35046, Cdc6 shRNA Plasmid (h): sc-29258-SH, Cdc6 shRNA Plasmid (m): sc-35046-SH, Cdc6 shRNA (h) Lentiviral Particles: sc-29258-V and Cdc6 shRNA (m) Lentiviral Particles: sc-35046-V.

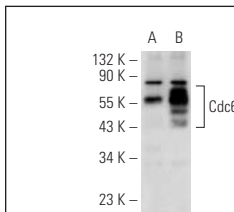
Molecular Weight of Cdc6: 62 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat whole cell lysate: sc-2204 or Cdc6 (h): 293T Lysate: sc-173781.

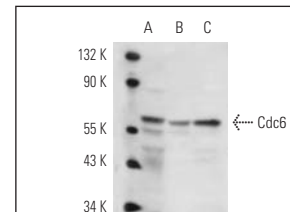
RECOMMENDED SECONDARY REAGENTS

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



Cdc6 (SPM380): sc-56359. Western blot analysis of Cdc6 expression in non-transfected: sc-117752 (A) and human Cdc6 transfected: sc-173781 (B) 293T whole cell lysates.



Cdc6 (SPM380): sc-56359. Western blot analysis of Cdc6 expression in HeLa nuclear extract (A) and Jurkat (B) and HeLa (C) whole cell lysates.

STORAGE

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

PROTOCOLS

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