

Cdc6 (0.N.189): sc-70827

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 control (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 (x 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.

CHROMOSOMAL LOCATION

Genetic locus: CDC6 (human) mapping to 17q21.2; Cdc6 (mouse) mapping to 11 D.

SOURCE

Cdc6 (0.N.189) is a mouse monoclonal antibody raised against full length Cdc6 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.

APPLICATIONS

Cdc6 (0.N.189) 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), 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 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.

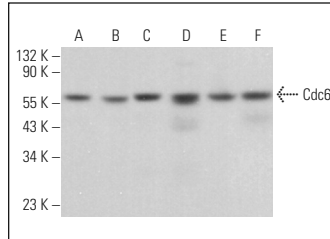
Molecular Weight of Cdc6: 62 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, SK-BR-3 cell lysate: sc-2218 or Cdc6 (h): 293T Lysate: sc-173781.

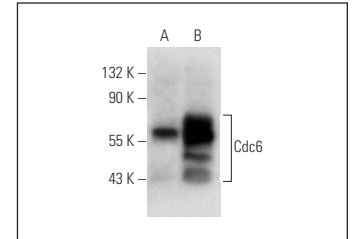
STORAGE

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

DATA



Cdc6 (0.N.189): sc-70827. Western blot analysis of Cdc6 expression in HeLa (A), IMR-32 (B), Neuro-2A (C), SK-BR-3 (D), U-87 MG (E) and C6 (F) whole cell lysates.



Cdc6 (0.N.189): sc-70827. Western blot analysis of Cdc6 expression in non-transfected: sc-117752 (A) and human Cdc6 transfected: sc-173781 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Petrenko, O., et al. 2003. Macrophage migration inhibitory factor deficiency is associated with altered cell growth and reduced susceptibility to Ras-mediated transformation. *J. Biol. Chem.* 278: 11078-11085.
- Wiebusch, L., et al. 2003. Human cytomegalovirus prevents replication licensing by inhibiting MCM loading onto chromatin. *EMBO Rep.* 4: 42-46.
- van Betteraey-Nikoleit, M., et al. 2003. Analyzing changes of chromatin-bound replication proteins occurring in response to and after release from a hypoxic block of replicon initiation in T24 cells. *Eur. J. Biochem.* 270: 3880-3890.
- Cook, J.G., et al. 2004. The regulated association of Cdt1 with minichromosome maintenance proteins and Cdc6 in mammalian cells. *J. Biol. Chem.* 279: 9625-9633.
- Mailand, N., et al. 2005. CDKs promote DNA replication origin licensing in human cells by protecting Cdc6 from APC/C-dependent proteolysis. *Cell* 122: 915-926.
- Geng, Y., et al. 2007. Kinase-independent function of cyclin E. *Mol. Cell* 25: 127-139.

RESEARCH USE

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

PROTOCOLS

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



See **Cdc6 (180.2): sc-9964** for Cdc6 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.