SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc27 (N-19): sc-6391

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 $p34^{Cdc2}$. 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: CDC27 (human) mapping to 17q21.32.

SOURCE

Cdc27 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Cdc27 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6391 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Cdc27 (N-19) is recommended for detection of Cdc27 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cdc27 (N-19) is also recommended for detection of Cdc27 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Cdc27 siRNA (h): sc-77362, Cdc27 shRNA Plasmid (h): sc-77362-SH and Cdc27 shRNA (h) Lentiviral Particles: sc-77362-V.

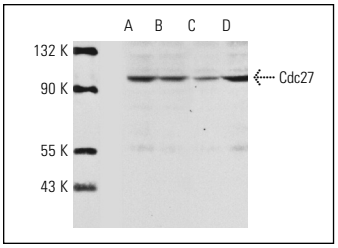
Molecular Weight of Cdc27: 97 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat nuclear extract: sc-2132 or Jurkat + PMA nuclear extract: sc-2133.

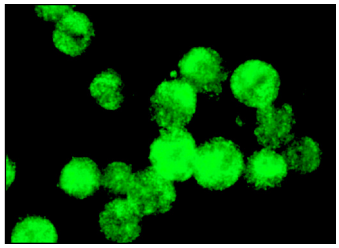
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Cdc27 (N-19): sc-6391. Western blot analysis of Cdc27 expression in control K-562 (**A**), phorbol induced K-562 (**B**), control Jurkat (**C**) and phorbol induced Jurkat (**D**) nuclear extracts.



Cdc27 (N-19): sc-6391. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **Cdc27 (AF3.1): sc-9972** or **Cdc27 (C-4): sc-13154**, our highly recommended monoclonal alternatives to Cdc27 (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Cdc27 (AF3.1): sc-9972**.