SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc27 (AF3.1): sc-9972

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.

CHROMOSOMAL LOCATION

Genetic locus: CDC27 (human) mapping to 17q21.32; Cdc27 (mouse) mapping to 11 E1.

SOURCE

Cdc27 (AF3.1) is a mouse monoclonal antibody raised against amino acids 814-823 of Cdc27 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cdc27 (AF3.1) is available conjugated to agarose (sc-9972 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9972 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9972 PE), fluorescein (sc-9972 FITC), Alexa Fluor® 488 (sc-9972 AF488), Alexa Fluor® 546 (sc-9972 AF546), Alexa Fluor® 594 (sc-9972 AF594) or Alexa Fluor® 647 (sc-9972 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9972 AF680) or Alexa Fluor® 790 (sc-9972 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Cdc27 (AF3.1) is recommended for detection of Cdc27 of mouse, rat, human and *Xenopus laevis* 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Cdc27 (AF3.1) is also recommended for detection of Cdc27 in additional species, including equine and canine.

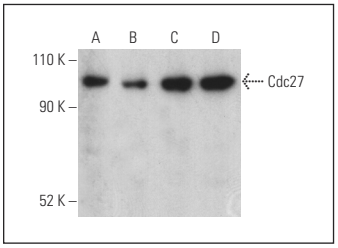
Suitable for use as control antibody for Cdc27 siRNA (h): sc-77362, Cdc27 siRNA (m): sc-35041, Cdc27 shRNA Plasmid (h): sc-77362-SH, Cdc27 shRNA Plasmid (m): sc-35041-SH, Cdc27 shRNA (h) Lentiviral Particles: sc-77362-V and Cdc27 shRNA (m) Lentiviral Particles: sc-35041-V.

Molecular Weight of Cdc27: 97 kDa.

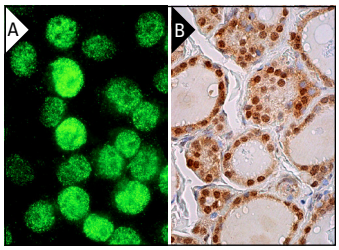
STORAGE

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

DATA



Cdc27 (AF3.1): sc-9972. Western blot analysis of Cdc27 expression in K-562 (**A**) and HEL 92.1.7 (**B**) whole cell lysates and A-431 (**C**) and Jurkat (**D**) nuclear extracts. Detection reagent used: m-IgG_{2b} BP-HRP: sc-542741.



Cdc27 (AF3.1): sc-9972. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sorensen, C.S., et al. 2001. A conserved cyclin-binding domain determines functional interplay between anaphase-promoting complex-cdh1 and cyclin A-Cdk2 during cell cycle progression. Mol. Cell. Biol. 21: 3692-3703.
2. Sackton, K.L., et al. 2014. Synergistic blockade of mitotic exit by two chemical inhibitors of the APC/C. Nature 514: 646-649.
3. Masuda, K., et al. 2015. LATS1 and LATS2 phosphorylate Cdc26 to modulate assembly of the tetratricopeptide repeat subcomplex of APC/C. PLoS ONE 10: e0118662.
4. Craney, A., et al. 2016. Control of APC/C-dependent ubiquitin chain elongation by reversible phosphorylation. Proc. Natl. Acad. Sci. USA 113: 1540-1545.
5. Qiu, L., et al. 2017. Cdc27 induces metastasis and invasion in colorectal cancer via the promotion of epithelial-to-mesenchymal transition. J. Cancer 8: 2626-2635.
6. Skowyra, A., et al. 2018. USP9X limits mitotic checkpoint complex turnover to strengthen the spindle assembly checkpoint and guard against chromosomal instability. Cell Rep. 23: 852-865.
7. Han, T., et al. 2019. Interplay between c-Src and the APC/C co-activator Cdh1 regulates mammary tumorigenesis. Nat. Commun. 10: 3716.
8. Skrajna, A., et al. 2020. Comprehensive nucleosome interactome screen establishes fundamental principles of nucleosome binding. Nucleic Acids Res. 48: 9415-9432.
9. Wang, H., et al. 2021. Reciprocal interaction between SIRT6 and APC/C regulates genomic stability. Sci. Rep. 11: 14253.

RESEARCH USE

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