SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc28 (G-7): sc-515762

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell cycle progression is controlled at a point late in G_1 designated Start. Passage through Start requires the activity of the cyclin-dependent protein kinase Cdc28. Transition from G_1 to S phase requires the association of Cdc28 with members of the G1 cyclin family, including Cln1, Cln2 and Cln3 (also designated DAF1 or WHI1). The G_2 to M phase requires the M phase cyclins, Clb1 (also designated Scb1) and Clb2, as well as the G_2 cyclins, Clb3 and Clb4. The S phase cyclins Clb5 and Clb6 coordinate DNA replication with cytokinesis. Expression of the cyclins is controlled by Ubc9 and Cdc34 (also designated Udc3 or Dna6) via ubiquitin-mediated proteolysis.

REFERENCES

1. Nasmyth, K. 1993. Control of the yeast cell cycle by the Cdc28 protein kinase. Curr. Opin. Cell Biol. 5: 166-179.
2. Sherlock, G. and Rosamond, J. 1993. Starting to cycle: G_1 controls regulating cell division in budding yeast. J. Gen. Microbiol. 139: 2531-2541.
3. Amon, A., et al. 1993. Mechanisms that help the yeast cell cycle clock tick: G_2 cyclins transcriptionally activate G_2 cyclins and repress G_1 cyclins. Cell 74: 993-1007.
4. Basco, R.D., et al. 1995. Negative regulation of G_1 and G_2 by S-phase cyclins of *Saccharomyces cerevisiae*. Mol. Cell. Biol. 15: 5030-5042.
5. Seufert, W., et al. 1995. Role of a ubiquitin-conjugating enzyme in degradation of S- and M-phase cyclins. Nature 373: 78-81.
6. Prendergast, J.A., et al. 1995. Increased ubiquitin expression suppresses the cell cycle defect associated with the yeast ubiquitin conjugating enzyme, CDC34 (UCB3). Evidence for a noncovalent interaction between CDC34 and ubiquitin. J. Biol. Chem. 270: 9347-9352.
7. Levine, K., et al. 1996. *Saccharomyces cerevisiae* G_1 cyclins differ in their intrinsic functional specificities. Mol. Cell. Biol. 16: 6794-6803.

SOURCE

Cdc28 (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 241-259 near the C-terminus of Cdc28 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cdc28 (G-7) is available conjugated to agarose (sc-515762 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515762 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515762 PE), fluorescein (sc-515762 FITC), Alexa Fluor® 488 (sc-515762 AF488), Alexa Fluor® 546 (sc-515762 AF546), Alexa Fluor® 594 (sc-515762 AF594) or Alexa Fluor® 647 (sc-515762 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515762 AF680) or Alexa Fluor® 790 (sc-515762 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

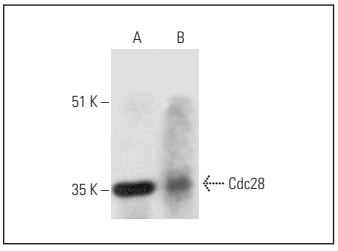
Cdc28 (G-7) is recommended for detection of Cdc28 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Positive Controls: EGY48 whole cell lysate: sc-364775 or *S. cerevisiae* tissue extract.

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.

DATA



Cdc28 (G-7): sc-515762. Western blot analysis of Cdc28 expression in EGY48 whole cell lysate (**A**) and *S. cerevisiae* tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Guan, G., et al. 2023. Glucose depletion enables *Candida albicans* mating independently of the epigenetic white-opaque switch. Nat. Commun. 14: 2067.
2. Leite, A.C., et al. 2023. Mitochondrial respiration promotes Cdc37-dependent stability of the Cdk1 homolog Cdc28. J. Cell Sci. 136: jcs260279.
3. Wang, K., et al. 2023. Unraveling the mechanisms and evolution of a two-domain module in IQGAP proteins for controlling eukaryotic cytokinesis. Cell Rep. 42: 113510.

STORAGE

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

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