

Cdc27 (C-4): sc-13154

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.

CHROMOSOMAL LOCATION

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

SOURCE

Cdc27 (C-4) is a mouse monoclonal antibody mapping to amino acids 1-300 of Cdc27 of human origin.

PRODUCT

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

Cdc27 (C-4) is available conjugated to agarose (sc-13154 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13154 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13154 PE), fluorescein (sc-13154 FITC), Alexa Fluor® 488 (sc-13154 AF488), Alexa Fluor® 546 (sc-13154 AF546), Alexa Fluor® 594 (sc-13154 AF594) or Alexa Fluor® 647 (sc-13154 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13154 AF680) or Alexa Fluor® 790 (sc-13154 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Cdc27 (C-4) is recommended for detection of Cdc27 of mouse, rat and human origin by Western Blotting (starting dilution 1:500, dilution range 1:500-1:5,000), 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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

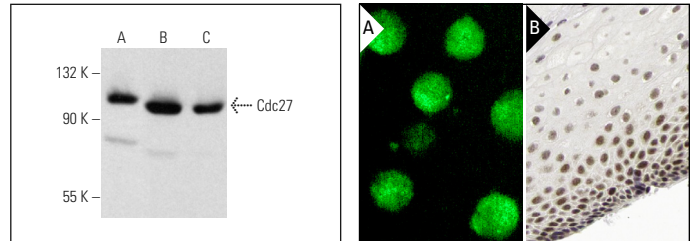
Suitable for use as control antibody for Cdc27 siRNA (h): sc-77362, Cdc27 siRNA (m): sc-35041, Cdc27 shRNA Plasmid (h): sc-77362-SH, Cdc27 shRNA Plasmid (m): sc-35041-SH, Cdc27 shRNA (h) Lentiviral Particles: sc-77362-V and Cdc27 shRNA (m) Lentiviral Particles: sc-35041-V.

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 (C-4): sc-13154. Western blot analysis of Cdc27 expression in MOLT-4 (A), K-562 (B) and HeLa (C) whole cell lysates.

Cdc27 (C-4): sc-13154. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear staining of surface epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Goto, M., et al. 2004. Speriolin is a novel spermatogenic cell-specific centrosomal protein associated with the seventh WD motif of Cdc20. *J. Biol. Chem.* 279: 42128-42138.
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- McLenachan, S., et al. 2012. Cyclin A1 is essential for setting the pluripotent state and reducing tumorigenicity of induced pluripotent stem cells. *Stem Cells Dev.* 21: 2891-2899.
- Lim, H.J., et al. 2013. The G₂/M regulator histone demethylase PHF8 is targeted for degradation by the anaphase-promoting complex containing Cdc20. *Mol. Cell. Biol.* 33: 4166-4180.
- Ohoka, N., et al. 2014. Cancer cell death induced by novel small molecules degrading the TACC3 protein via the ubiquitin-proteasome pathway. *Cell Death Dis.* 5: e1513.
- Ha, K., et al. 2017. The anaphase promoting complex impacts repair choice by protecting ubiquitin signalling at DNA damage sites. *Nat. Commun.* 8: 15751.
- Ma, C., et al. 2018. The anaphase promoting complex promotes NHEJ repair through stabilizing Ku80 at DNA damage sites. *Cell Cycle* 17: 1138-1145.
- Bancroft, J., et al. 2020. PP1 promotes cyclin B destruction and the metaphase-anaphase transition by dephosphorylating Cdc20. *Mol. Biol. Cell.* E-published.

RESEARCH USE

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

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