

Cdc16 (D-1): sc-376091

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 Hsp90. 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.

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 p34cdc2. *Cell* 67: 197-211.
- 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.
- 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.
- Barinaga, M. 1995. A new twist to the cell cycle. *Science* 269: 631-632.

CHROMOSOMAL LOCATION

Genetic locus: CDC16 (human) mapping to 13q34; Cdc16 (mouse) mapping to 8 A1.1.

SOURCE

Cdc16 (D-1) is a mouse monoclonal antibody raised against amino acids 269-568 mapping at the C-terminus of Cdc16 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.

Cdc16 (D-1) is available conjugated to agarose (sc-376091 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376091 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376091 PE), fluorescein (sc-376091 FITC), Alexa Fluor® 488 (sc-376091 AF488), Alexa Fluor® 546 (sc-376091 AF546), Alexa Fluor® 594 (sc-376091 AF594) or Alexa Fluor® 647 (sc-376091 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376091 AF680) or Alexa Fluor® 790 (sc-376091 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

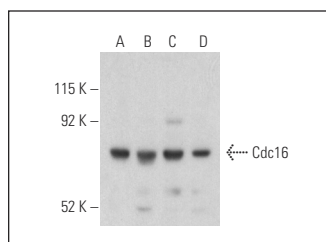
Cdc16 (D-1) is recommended for detection of Cdc16 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 Cdc16 siRNA (h): sc-35035, Cdc16 siRNA (m): sc-35036, Cdc16 shRNA Plasmid (h): sc-35035-SH, Cdc16 shRNA Plasmid (m): sc-35036-SH, Cdc16 shRNA (h) Lentiviral Particles: sc-35035-V and Cdc16 shRNA (m) Lentiviral Particles: sc-35036-V.

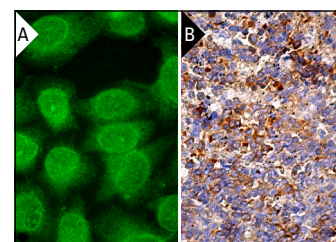
Molecular Weight of Cdc16: 77 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

DATA



Cdc16 (D-1): sc-376091. Western blot analysis of Cdc16 expression in HeLa (A), Jurkat (B), K-562 (C) and A-431 (D) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Cdc16 (D-1): sc-376091. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white and red pulps (B).

SELECT PRODUCT CITATIONS

- Cao, X., et al. 2022. Proximity labeling reveals spatial regulation of the anaphase-promoting complex/cyclosome by a microtubule adaptor. *ACS Chem. Biol.* 17: 2605-2618.

STORAGE

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

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.