SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc6 (180.2): sc-9964

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 control (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 (ana-phase-promoting complex) which ubiquitinates cyclin B, resulting in cyclin B/Cdk complex degradation.

CHROMOSOMAL LOCATION

Genetic locus: CDC6 (human) mapping to 17q21.2; Cdc6 (mouse) mapping to 11 D.

SOURCE

Cdc6 (180.2) is a mouse monoclonal antibody raised against full length Cdc6 of human 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.

Cdc6 (180.2) is available conjugated to agarose (sc-9964 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9964 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9964 PE), fluorescein (sc-9964 FITC), Alexa Fluor® 488 (sc-9964 AF488), Alexa Fluor® 546 (sc-9964 AF546), Alexa Fluor® 594 (sc-9964 AF594) or Alexa Fluor® 647 (sc-9964 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9964 AF680) or Alexa Fluor® 790 (sc-9964 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Cdc6 (180.2) is available conjugated to TRITC (sc-9964 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

Cdc6 (180.2) is recommended for detection of Cdc6 of mouse, rat and 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

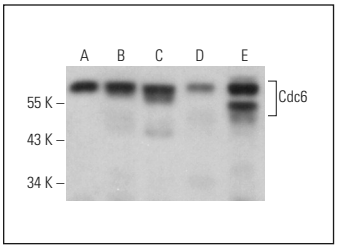
Suitable for use as control antibody for Cdc6 siRNA (h): sc-29258, Cdc6 siRNA (m): sc-35046, Cdc6 shRNA Plasmid (h): sc-29258-SH, Cdc6 shRNA Plasmid (m): sc-35046-SH, Cdc6 shRNA (h) Lentiviral Particles: sc-29258-V and Cdc6 shRNA (m) Lentiviral Particles: sc-35046-V.

Molecular Weight of Cdc6: 62 kDa.

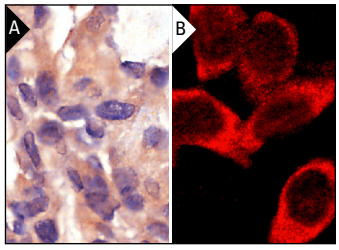
STORAGE

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

DATA



Cdc6 (180.2): sc-9964. Western blot analysis of Cdc6 expression in HeLa (**A**), SK-BR-3 (**B**), NCI-H929 (**C**), BYDP (**D**) and SP2/0 (**E**) whole cell lysates.



Cdc6 (180.2): sc-9964. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tumor (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Wiebusch, L., et al. 2003. Human cytomegalovirus prevents replication licensing by inhibiting MCM loading onto chromatin. EMBO Rep. 4: 42-46.
2. Petrenko, O., et al. 2003. Macrophage migration inhibitory factor deficiency is associated with altered cell growth and reduced susceptibility to Ras-mediated transformation. J. Biol. Chem. 278: 11078-11085.
3. van Betteraey-Nikoleit, M., et al. 2003. Analyzing changes of chromatin-bound replication proteins occurring in response to and after release from a hypoxic block of replicon initiation in T24 cells. Eur. J. Biochem. 270: 3880-3890.
4. Huang, S., et al. 2016. DNA replication initiator Cdc6 also regulates ribosomal DNA transcription initiation. J. Cell Sci. 129: 1429-1440.
5. Preet, R., et al. 2016. Chk1 inhibitor synergizes quinacrine mediated apoptosis in breast cancer cells by compromising the base excision repair cascade. Biochem. Pharmacol. 105: 23-33.
6. Passerini, V., et al. 2016. The presence of extra chromosomes leads to genomic instability. Nat. Commun. 7: 10754.
7. Fan, X., et al. 2016. Role of Cdc6 in re-replication in cells expressing human papillomavirus E7 oncogene. Carcinogenesis 37: 799-809.
8. Huang, Y., et al. 2016. A role of hIPI3 in DNA replication licensing in human cells. PLoS ONE 11: e0151803.
9. Chauhan, S., et al. 2016. Cdk2 catalytic activity is essential for meiotic cell division *in vivo*. Biochem. J. 473: 2783-2798.
10. Patel, P.L., et al. 2016. Derepression of hTERT gene expression promotes escape from oncogene-induced cellular senescence. Proc. Natl. Acad. Sci. USA 113: E5024-E5033.

RESEARCH USE

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