# Cdc37 (h4): 293T Lysate: sc-174915



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 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 ubiquitinconjugating 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.

## **REFERENCES**

- Palmer, R.E., Hogan, E. and Koshland, D 1990. Mitotic transmission of artificial chromosomes in cdc mutants of the yeast, Saccharomyces cerevisiae. Genetics 125: 763-774.
- Gautier, J., Solomon, M.J., Booher, R.N., Bazan, J.F. and Kirschner, M.W. 1991. Cdc25 is a specific Tyrosine phosphatase that directly activates p34Cdc2. Cell 67: 197-211.
- Plon, S.E., Leppig, K.A., Do, H.N. and Groudine, M. 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., Peters, J.M., Tugendreich, S., Rolfe, M., Hieter, P. and Kirschner, M.W. 1995. A 20S complex containing Cdc27 and Cdc16 catalyzes the mitosis-specific conjugation of ubiquitin to cyclin B. Cell 81: 279-288.
- 5. Barinaga, M. 1995. A new twist to the cell cycle. Science 269: 631-632.
- Stepanova, L., Leng, X., Parker, S.B. and Harper, J.W. 1996. Mammalian p50Cdc37 is a protein kinase-targeting subunit of HSP 90 that binds and stabilizes Cdk4. Genes and Dev. 10: 1491-1502.
- 7. Williams, R.S., Shohet, R.V. and Stillman, B. 1997. A human protein related to yeast Cdc6p. Proc. Natl. Acad. Sci. USA 94: 142-147.
- 8. Kise, Y., Takenaka, K., Tezuka, T., Yamamoto, T. and Miki, H. 2006. Fused kinase is stabilized by Cdc37/HSP 90 and enhances GLI protein levels. Biochem. Biophys. Res. Commun. 351: 78-84.
- Mandal, A.K. Lee, P., Chen, J.A., Nillegoda, N., Heller, A., DiStasio, S., Oen, H., Victor, J., Nair, D.M., Brodsky, J.L. and Caplan, A.J. 2007. Cdc37 has distinct roles in protein kinase quality control that protect nascent chains from degradation and promote posttranslational maturation. J. Cell Biol. 176: 319-328.

## **CHROMOSOMAL LOCATION**

Genetic locus: CDC37 (human) mapping to 19p13.2.

#### **RESEARCH USE**

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

#### **PRODUCT**

Cdc37 (h4): 293T Lysate represents a lysate of human Cdc37 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

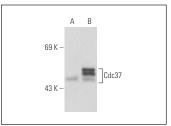
## **APPLICATIONS**

Cdc37 (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive Cdc37 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Cdc37 (15): sc-135862 is recommended as a positive control antibody for Western Blot analysis of enhanced human Cdc37 expression in Cdc37 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

#### **DATA**



Cdc37 (15): sc-135862. Western blot analysis of Cdc37 expression in non-transfected: sc-117752 (**A**) and human Cdc37 transfected: sc-174915 (**B**) 293T whole cell Ivsates.

## **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

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