SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc37 (E-4): sc-13129

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 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 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

1. Palmer, R.E., et al. 1990. Mitotic transmission of artificial chromosomes in cdc mutants of the yeast, *Saccharomyces cerevisiae.* Genetics 125: 763-774.
2. Gautier, J., et al. 1991. Cdc25 is a specific tyrosine phosphatase that directly activates p34cdc2. Cell 67: 197-211.

CHROMOSOMAL LOCATION

Genetic locus: CDC37 (human) mapping to 19p13.2; Cdc37 (mouse) mapping to 9 A3.

SOURCE

Cdc37 (E-4) is a mouse monoclonal antibody raised against amino acids 108-378 of Cdc37 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.

Cdc37 (E-4) is available conjugated to agarose (sc-13129 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13129 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13129 PE), fluorescein (sc-13129 FITC), Alexa Fluor® 488 (sc-13129 AF488), Alexa Fluor® 546 (sc-13129 AF546), Alexa Fluor® 594 (sc-13129 AF594) or Alexa Fluor® 647 (sc-13129 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13129 AF680) or Alexa Fluor® 790 (sc-13129 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Cdc37 (E-4) is available conjugated to TRITC (sc-13129 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

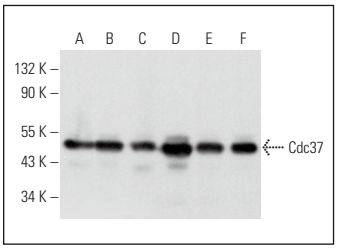
Cdc37 (E-4) is recommended for detection of Cdc37 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 Cdc37 siRNA (h): sc-29255, Cdc37 siRNA (m): sc-35043, Cdc37 shRNA Plasmid (h): sc-29255-SH, Cdc37 shRNA Plasmid (m): sc-35043-SH, Cdc37 shRNA (h) Lentiviral Particles: sc-29255-V and Cdc37 shRNA (m) Lentiviral Particles: sc-35043-V.

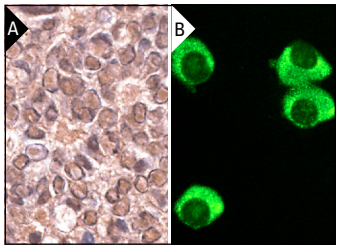
Molecular Weight of Cdc37: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

DATA



Cdc37 (E-4): sc-13129. Western blot analysis of Cdc37 expression in Jurkat (**A**), K-562 (**B**), A-431 (**C**), NIH/3T3 (**D**), SW480 (**E**) and MCF7 (**F**) whole cell lysates.



Cdc37 (E-4): sc-13129. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing nuclear staining (**A**). Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Miyata, Y. and Nishida, E. 2005. CK2 binds, phosphorylates, and regulates its pivotal substrate Cdc37, an Hsp90-cochaperone. Mol. Cell. Biochem. 274: 171-179.
2. Lavoie, H., et al. 2018. MEK drives BRAF activation through allosteric control of KSR proteins. Nature 554: 549-553.
3. Touti, F., et al. 2019. In-solution enrichment identifies peptide inhibitors of protein-protein interactions. Nat. Chem. Biol. 15: 410-418.
4. Borgo, C., et al. 2020. A N-terminally deleted form of the CK2α' catalytic subunit is sufficient to support cell viability. Biochem. Biophys. Res. Commun. 531: 409-415.
5. Siddiqui, F.A., et al. 2021. Novel small molecule Hsp90/Cdc37 interface inhibitors indirectly target K-Ras-signaling. Cancers 13: 927.
6. García-Alonso, S., et al. 2022. Structure of the RAF1-HSP90-CDC37 complex reveals the basis of RAF1 regulation. Mol. Cell 82: 3438-3452.e8.

RESEARCH USE

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