SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc2 p34 (C-9): sc-137034

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In vertebrates, as in yeast, multiple cyclins have been identified, including a total of eight such regulatory proteins in mammals. In contrast to the situation in yeast, the Cdc2 p34 kinase is not the only catalytic subunit identified in vertebrates that can interact with cyclins. While Cdc2 p34 is essential for the G2 to M transition in vertebrate cells, a second Cdc2-related kinase has also been implicated in cell cycle control. This protein, designated cyclin-dependent kinase 2 (Cdk2) p33, also binds to cyclins and its kinase activity is temporally regulated during the cell cycle. Several additional Cdc2 p34-related cyclin dependent kinases have been identified. These include Cdk3-Cdk8, PCTAIRE-1–3 and KKIALRE.

REFERENCES

1. Riabowol, K., et al. 1989. The Cdc2 kinase is a nuclear protein that is essential for mitosis in mammalian cells. Cell 57: 393-401.
2. Morla, A.O., et al. 1989. Reversible tyrosine phosphorylation of Cdc2: dephosphorylation accompanies activation during entry into mitosis. Cell 58: 193-203.
3. Pines, J. and Hunter, T. 1989. Isolation of a human cyclin cDNA: evidence for cyclin mRNA and protein regulation in the cell cycle and for interaction with $p34^{Cdc2}$. Cell 58: 833-846.

CHROMOSOMAL LOCATION

Genetic locus: CDK1 (human) mapping to 10q21.2; Cdk1 (mouse) mapping to 10 B5.3.

SOURCE

Cdc2 p34 (C-9) is a mouse monoclonal antibody raised against amino acids 1-297 representing full length Cdc2 p34 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.

APPLICATIONS

Cdc2 p34 (C-9) is recommended for detection of Cdc2 p34 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 Cdc2 p34 siRNA (h): sc-29252, Cdc2 p34 siRNA (m): sc-29253, Cdc2 p34 shRNA Plasmid (h): sc-29252-SH, Cdc2 p34 shRNA Plasmid (m): sc-29253-SH, Cdc2 p34 shRNA (h) Lentiviral Particles: sc-29252-V and Cdc2 p34 shRNA (m) Lentiviral Particles: sc-29253-V.

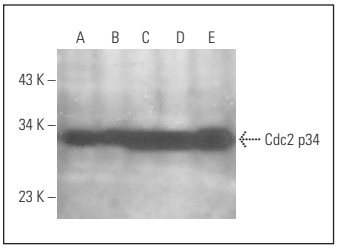
Molecular Weight of Cdc2 p34: 34 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, BJAB whole cell lysate: sc-2207 or PC-3 cell lysate: sc-2220.

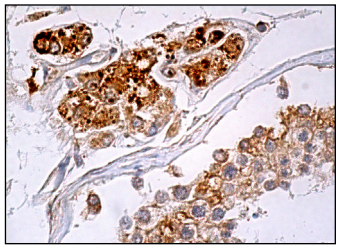
STORAGE

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

DATA



Cdc2 p34 (C-9): sc-137034. Western blot analysis of Cdc2 p34 expression in NAMALWA (**A**), PC-3 (**B**), MCF7 (**C**) and BJAB (**D**) whole cell lysates and K-562 nuclear extract (**E**).



Cdc2 p34 (C-9): sc-137034. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Chen, Y.J., et al. 2013. The synthetic flavonoid WYC02-9 inhibits colorectal cancer cell growth through ROS-mediated activation of MAPK14 pathway. Life Sci. 92: 1081-1092.
2. Tang, R., et al. 2013. CTP synthase 1, a smooth muscle-sensitive therapeutic target for effective vascular repair. Arterioscler. Thromb. Vasc. Biol. 33: 2336-2344.
3. Pattabiraman, C., et al. 2014. $CD66^+$ cells in cervical precancers are partially differentiated progenitors with neoplastic traits. Cancer Res. 74: 6682-6692.
4. McCloy, R.A., et al. 2014. Partial inhibition of Cdk1 in G_2 phase overrides the SAC and decouples mitotic events. Cell Cycle 13: 1400-1412.
5. Megiorni, F., et al. 2015. Crizotinib-induced antitumour activity in human alveolar rhabdomyosarcoma cells is not solely dependent on ALK and MET inhibition. J. Exp. Clin. Cancer Res. 34: 112.
6. Yang, X.F., et al. 2017. SAHA and/or MG132 reverse the aggressive phenotypes of glioma cells: an *in vitro* and *vivo* study. Oncotarget 8: 3156-3169.
7. Zhao, S., et al. 2017. The roles of ING5 in gliomas: a good marker for tumorigenesis and a potential target for gene therapy. Oncotarget 8: 56558-56568.
8. Lafarga, V., et al. 2019. TIAR marks nuclear G_2/M transition granules and restricts Cdk1 activity under replication stress. EMBO Rep. 20: e46224.

RESEARCH USE

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

CONJUGATES

See **Cdc2 p34 (17): sc-54** for Cdc2 p34 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.