

Cdc2 p34 (POH-1): sc-51578

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 KIALRE.

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.

SOURCE

Cdc2 p34 (POH-1) is a mouse monoclonal antibody raised against recombinant Cdc2 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Cdc2 p34 (POH-1) is recommended for detection of Cdc2 of human and bovine 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 Cdc2 p34 siRNA (h): sc-29252, Cdc2 p34 shRNA Plasmid (h): sc-29252-SH and Cdc2 p34 shRNA (h) Lentiviral Particles: sc-29252-V.

Molecular Weight of Cdc2 p34: 34 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or HeLa whole cell lysate: sc-2200.

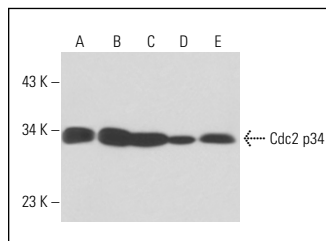
RESEARCH USE

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

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 (POH-1): sc-51578. Western blot analysis of Cdc2 p34 expression in HeLa (A) and K-562 (B) nuclear extracts and NAMALWA (C), MCF7 (D) and BJAB (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lokeshwar, V.B., et al. 2005. HYAL1 hyaluronidase: a molecular determinant of bladder tumor growth and invasion. *Cancer Res.* 65: 2243-2250.
2. Xu, H., et al. 2009. Antitumor efficacy and molecular mechanism of TLK58747, a novel DNA-alkylating prodrug. *Anticancer Res.* 29: 3845-3855.
3. Gutierrez, G.J., et al. 2010. JNK-mediated phosphorylation of Cdc25C regulates cell cycle entry and G₂/M DNA damage checkpoint. *J. Biol. Chem.* 285: 14217-14228.
4. Lin, L.L., et al. 2012. Revealing the molecular mechanism of gastric cancer marker annexin A4 in cancer cell proliferation using exon arrays. *PLoS ONE* 7: e44615.
5. Guo, M., et al. 2013. A novel anticancer agent broussoflavonol B down-regulates estrogen receptor (ER)-α36 expression and inhibits growth of ER-negative breast cancer MDA-MB-231 cells. *Eur. J. Pharmacol.* 714: 56-64.
6. dos Santos, N.V., et al. 2015. Copper uptake in mammary epithelial cells activates cyclins and triggers antioxidant response. *Oxid. Med. Cell. Longev.* 2015: 162876.
7. Mäkelä, E., et al. 2019. Arpp19 promotes Myc and Cip2a expression and associates with patient relapse in acute myeloid leukemia. *Cancers* 11: 1774.
8. Mackiewicz, M., et al. 2020. *Theileria annulata* surface protein (TaSP) is a target of cyclin-dependent kinase 1 phosphorylation in *Theileria annulata*-infected cells. *Transbound. Emerg. Dis.* 67: 40-55.



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.