

Cdc2 p34 (C-19): sc-954

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 KKIALLRE.

CHROMOSOMAL LOCATION

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

SOURCE

Cdc2 p34 (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Cdc2 p34 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-954 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cdc2 p34 (C-19) is recommended for detection of Cdc2 p34 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cdc2 p34 (C-19) is also recommended for detection of Cdc2 p34 in additional species, including equine, canine, bovine and porcine.

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: IB4 whole cell lysate: sc-364780, HeLa nuclear extract: sc-2120 or NAMALWA cell lysate: sc-2234.

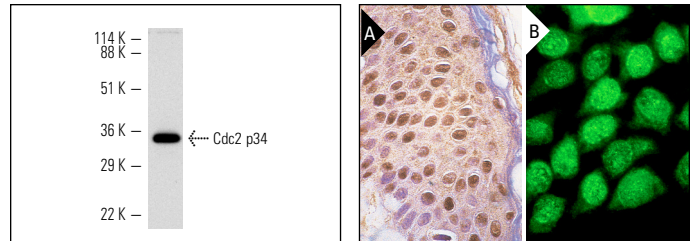
STORAGE

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

RESEARCH USE

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

DATA



Cdc2 p34 (C-19): sc-954. Western blot analysis of Cdc2 p34 expression in IB4 whole cell lysate.

Cdc2 p34 (C-19): sc-954. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human skin (A). Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (B).

SELECT PRODUCT CITATIONS

- Orlandi, L., et al. 1996. Effect of melphalan and hyperthermia on p34^{Cdc2} kinase activity in human melanoma cells. *Br. J. Cancer* 74: 1924-1928.
- Alekseev, O.M., et al. 2009. Linker histones stimulate HSPA2 ATPase activity through NASP binding and inhibit CDC2/Cyclin B1 complex formation during meiosis in the mouse. *Biol. Reprod.* 81: 739-748.
- Tian, Z., et al. 2009. Cytotoxic diarylheptanoid induces cell cycle arrest and apoptosis via increasing ATF3 and stabilizing p53 in SH-SY5Y cells. *Cancer Chemother. Pharmacol.* 63: 1131-1139.
- Lin, X., et al. 2009. EBV-encoded LMP1 regulates Op18/stathmin signaling pathway by cdc2 mediation in nasopharyngeal carcinoma cells. *Int. J. Cancer* 124: 1020-1027.
- Schmetsdorf, S., et al. 2009. A putative role for cell cycle-related proteins in microtubule-based neuroplasticity. *Eur. J. Neurosci.* 29: 1096-1107.
- Pereg, Y., et al. 2010. Ubiquitin hydrolase Dub3 promotes oncogenic transformation by stabilizing Cdc25A. *Nat. Cell Biol.* 12: 400-406.
- 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.
- Yan, Y., et al. 2010. Protein phosphatase 2A has an essential role in the activation of γ -irradiation-induced G₂/M checkpoint response. *Oncogene* 29: 4317-4329.
- Kurzawa, L., et al. 2011. Fluorescent peptide biosensor for probing the relative abundance of cyclin dependent kinases in living cells. *PLoS ONE* 6: e26555.



Try **Cdc2 p34 (17): sc-54** or **Cdc2 p34 (B-6): sc-8395**, our highly recommended monoclonal alternatives to Cdc2 p34 (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Cdc2 p34 (17): sc-54**.