

Cdk2 (0.N.198): sc-70829

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.

CHROMOSOMAL LOCATION

Genetic locus: CDK2 (human) mapping to 12q13.2; Cdk2 (mouse) mapping to 10 D3.

SOURCE

Cdk2 (0.N.198) is a mouse monoclonal antibody raised against recombinant Cdk2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Cdk2 (0.N.198) is recommended for detection of Cdk2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Cdk2 siRNA (h): sc-29259, Cdk2 siRNA (m): sc-29260, Cdk2 shRNA Plasmid (h): sc-29259-SH, Cdk2 shRNA Plasmid (m): sc-29260-SH, Cdk2 shRNA (h) Lentiviral Particles: sc-29259-V and Cdk2 shRNA (m) Lentiviral Particles: sc-29260-V.

Molecular Weight of Cdk2: 34 kDa.

Positive Controls: Cdk2 (m): 293T Lysate: sc-119146, K-562 whole cell lysate: sc-2203 or F9 cell lysate: sc-2245.

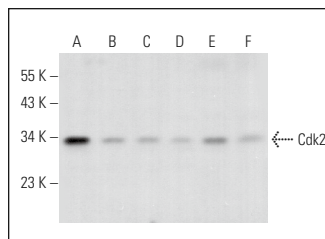
STORAGE

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

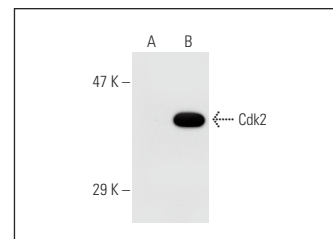
RESEARCH USE

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

DATA



Cdk2 (0.N.198): sc-70829. Western blot analysis of Cdk2 expression in K-562 (A), JAR (B), SK-MEL-24 (C), F9 (D), c4 (E) and C6 (F) whole cell lysates.



Cdk2 (0.N.198): sc-70829. Western blot analysis of Cdk2 expression in non-transfected: sc-117752 (A) and mouse Cdk2 transfected: sc-119146 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Liu, G., et al. 2010. Stanniocalcin 1 and ovarian tumorigenesis. *J. Natl. Cancer Inst.* 102: 812-827.
2. Yang, G., et al. 2010. CXCR2 promotes ovarian cancer growth through dysregulated cell cycle, diminished apoptosis, and enhanced angiogenesis. *Clin. Cancer Res.* 16: 3875-3886.
3. Lee, C., et al. 2017. Anticancer effects of an extract from the scallop *Patinopecten yessoensis* on MCF-7 human breast carcinoma cells. *Oncol. Lett.* 14: 2207-2217.
4. Zhao, X., et al. 2018. *Ganoderma lucidum* polysaccharide inhibits prostate cancer cell migration via the protein arginine methyltransferase 6 signaling pathway. *Mol. Med. Rep.* 17: 147-157.
5. Li, B., et al. 2018. MicroRNA-1254 exerts oncogenic effects by directly targeting RASSF9 in human breast cancer. *Int. J. Oncol.* 53: 2145-2156.
6. Nasser, M.I., et al. 2019. Inhibitory effects of Schisandrin B on human prostate cancer cells. *Oncol. Rep.* 41: 677-685.
7. Wang, W., et al. 2019. Deoxypodophyllotoxin inhibits cell viability and invasion by blocking the PI3K/Akt signaling pathway in human glioblastoma cells. *Oncol. Rep.* 41: 2453-2463.
8. Chen, R., et al. 2020. Cx43 and AKAP95 regulate G₁/S conversion by competitively binding to cyclin E1/E2 in lung cancer cells. *Thorac. Cancer* 11: 1594-1602.

PROTOCOLS

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



See **Cdk2 (D-12): sc-6248** for Cdk2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.