

# Cdc2 p34 (B-6): sc-8395

## 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 G<sub>2</sub> 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: CDC2 (human) mapping to 10q21.2; Cdc2a (mouse) mapping to 10 B5.3.

## SOURCE

Cdc2 p34 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-30 near the N-terminus of Cdc2 p34 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cdc2 p34 (B-6) is available conjugated to agarose (sc-8395 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8395 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8395 PE), fluorescein (sc-8395 FITC), Alexa Fluor<sup>®</sup> 488 (sc-8395 AF488), Alexa Fluor<sup>®</sup> 546 (sc-8395 AF546), Alexa Fluor<sup>®</sup> 594 (sc-8395 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-8395 AF647), 200 µg/ml, for VIB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-8395 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-8395 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-8395 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Cdc2 p34 (B-6) is recommended for detection of Cdc2 p34 of mouse, rat and human 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 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.

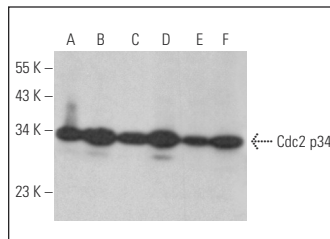
Molecular Weight of Cdc2 p34: 34 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

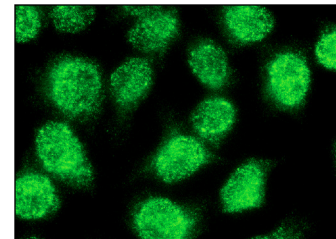
## STORAGE

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

## DATA



Cdc2 p34 (B-6): sc-8395. Western blot analysis of Cdc2 p34 expression in NAMALWA (A), HL-60 (B), MCF7 (C), BJAB (D), IB4 (E) and Hep G2 (F) whole cell lysates.



Cdc2 p34 (B-6): sc-8395. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Tseng, C., et al. 2002. Microtubule damaging agents induce apoptosis in HL-60 cells and G<sub>2</sub>/M cell cycle arrest in HT 29 cells. *Toxicology* 175: 123-142.
2. Bork, U., et al. 2010. Cadmium-induced DNA damage triggers G<sub>2</sub>/M arrest via chk1/2 and cdc2 in p53-deficient kidney proximal tubule cells. *Am. J. Physiol. Renal Physiol.* 298: F255-F265.
3. Shen, W., et al. 2010. Female infertility in PDE3A<sup>-/-</sup> mice: polo-like kinase 1 (Plk1) may be a target of protein kinase A (PKA) and involved in meiotic arrest of oocytes from PDE3A<sup>-/-</sup> mice. *Cell Cycle* 9: 4720-4734.
4. Gardner, L., et al. 2011. Geminin overexpression prevents the completion of topoisomerase IIα chromosome decatenation, leading to aneuploidy in human mammary epithelial cells. *Breast Cancer Res.* 13: R53.
5. Chen, T., et al. 2011. Experimental therapy of ovarian cancer with synthetic makaluvamine analog: *in vitro* and *in vivo* anticancer activity and molecular mechanisms of action. *PLoS ONE* 6: e20729.
6. Jorda, R., et al. 2011. Pyrazolo[4,3-d]pyrimidine bioisostere of roscovitine: evaluation of a novel selective inhibitor of cyclin-dependent kinases with antiproliferative activity. *J. Med. Chem.* 54: 2980-2993.
7. Cotugno, R., et al. 2012. Effect of sesquiterpene lactone coronopilin on leukaemia cell population growth, cell type-specific induction of apoptosis and mitotic catastrophe. *Cell Prolif.* 45: 53-65.
8. Cotugno, R., et al. 2014. Powerful tumor cell growth-inhibiting activity of a synthetic derivative of atractylenin: involvement of PI3K/Akt pathway and thioredoxin system. *Biochim. Biophys. Acta* 1840: 1135-1144.

## RESEARCH USE

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

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