

# Cdk2 (D-12): sc-6248

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

## SOURCE

Cdk2 (D-12) is a mouse monoclonal antibody raised against amino acids 1-298 representing full length Cdk2 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.

Cdk2 (D-12) is available conjugated to agarose (sc-6248 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6248 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6248 PE), fluorescein (sc-6248 FITC), Alexa Fluor<sup>®</sup> 488 (sc-6248 AF488), Alexa Fluor<sup>®</sup> 546 (sc-6248 AF546), Alexa Fluor<sup>®</sup> 594 (sc-6248 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-6248 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-6248 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-6248 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Cdk2 (D-12) is available conjugated to either TRITC (sc-6248 TRITC, 200 µg/ml) or Alexa Fluor<sup>®</sup> 405 (sc-6248 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

## APPLICATIONS

Cdk2 (D-12) 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), 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 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.

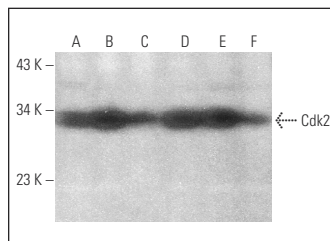
Molecular Weight of Cdk2: 34 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or HL-60 whole cell lysate: sc-2209.

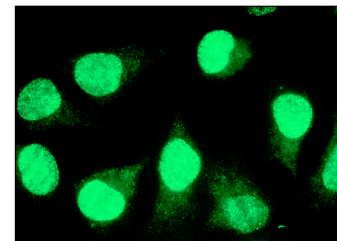
## STORAGE

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

## DATA



Cdk2 (D-12): sc-6248. Western blot analysis of Cdk2 expression in NIH/3T3 (A), MCF7 (B), SK-BR-3 (C), Jurkat (D), HL-60 (E) and Hep G2 (F) whole cell lysates.



Cdk2 (D-12): sc-6248. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Felzien, L., et al. 1999. Specificity of cyclin E-Cdk2, TFIIB, and E1A interactions with a common domain of the p300 coactivator. *Mol. Cell. Biol.* 19: 4241-4246.
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- Sané, A.T. and Bertrand, R. 1999. Caspase inhibition in camptothecin-treated U-937 cells is coupled with a shift from apoptosis to transient G<sub>1</sub> arrest followed by necrotic cell death. *Cancer Res.* 59: 3565-3569.
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- Wang, Y., et al. 2019. The meiotic TERB1-TERB2-MAJIN complex tethers telomeres to the nuclear envelope. *Nat. Commun.* 10: 564.
- Herold, S., et al. 2019. Recruitment of BRCA1 limits MYCN-driven accumulation of stalled RNA polymerase. *Nature* 567: 545-549.
- Tormo, E., et al. 2019. The miRNA-449 family mediates doxorubicin resistance in triple-negative breast cancer by regulating cell cycle factors. *Sci. Rep.* 9: 5316.

## RESEARCH USE

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

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