

Cdk4 (H-303): sc-749

BACKGROUND

Cell cycle progression is controlled in part by a family of cyclin proteins and cyclin dependent kinases (Cdks). Cdk proteins work in concert with the cyclins to phosphorylate key substrates involved in each phase of cell cycle progression. Another family of proteins, Cdk inhibitors, also plays a role in regulating the cell cycle by binding to cyclin-Cdk complexes and modulating their activity. Several Cdk proteins have been identified, including Cdk2-Cdk8, PCTAIRE-1-PCTAIRE-3, PITALRE and PITSIRE. Cdk4, in complex with D-type cyclins, is thought to regulate cell growth during the G₁ phase of the cell cycle. This association with a D-type cyclin upregulates Cdk4 activity, whereas binding to the Cdk inhibitor p16 downregulates Cdk4 activity. Activation of the Cdk4-cyclin complexes requires phosphorylation on a single threonyl residue of Cdk4, catalyzed by a Cdk-activating protein (CAK).

CHROMOSOMAL LOCATION

Genetic locus: CDK4 (human) mapping to 12q14.1; Cdk4 (mouse) mapping to 10 D3.

SOURCE

Cdk4 (H-303) is a rabbit polyclonal antibody raised against amino acids 1-303 representing full length Cdk4 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.

APPLICATIONS

Cdk4 (H-303) is recommended for detection of Cdk4 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).

Cdk4 (H-303) is also recommended for detection of Cdk4 p34 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Cdk4 siRNA (h): sc-29261, Cdk4 siRNA (m): sc-29262, Cdk4 shRNA Plasmid (h): sc-29261-SH, Cdk4 shRNA Plasmid (m): sc-29262-SH, Cdk4 shRNA (h) Lentiviral Particles: sc-29261-V and Cdk4 shRNA (m) Lentiviral Particles: sc-29262-V.

Molecular Weight of Cdk4: 34 kDa.

Positive Controls: Cdk4 (h3): 293 Lysate: sc-158369, Ramos cell lysate: sc-2216 or HeLa whole cell lysate: sc-2200.

RESEARCH USE

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

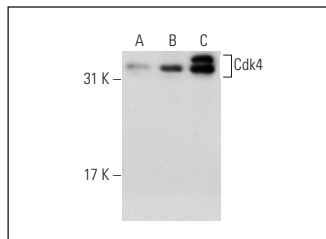
PROTOCOLS

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

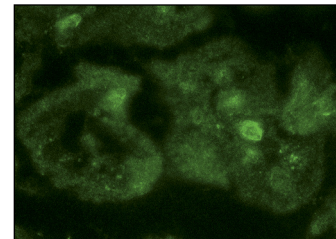
STORAGE

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

DATA



Cdk4 (H-303): sc-749. Western blot analysis of Cdk4 expression in non-transfected 293: sc-110760 (A), human Cdk4 transfected 293: sc-158369 (B) and HeLa (C) whole cell lysates.



Cdk4 (H-303): sc-749. Immunofluorescence staining of normal mouse kidney frozen section showing cytoplasmic and nuclear staining.

SELECT PRODUCT CITATIONS

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- Schlott, T., et al. 2004. Analysis of central regulatory pathways in p53-deficient primary cultures of malignant fibrous histiocytoma exposed to ifosfamide. *Anticancer Res.* 24: 3819-3829.
- Deep, G., et al. 2006. Silymarin and silibinin cause G₁ and G₂-M cell cycle arrest via distinct circuitries in human prostate cancer PC3 cells: a comparison of flavanone silibinin with flavanolignan mixture silymarin. *Oncogene* 25: 1053-1069.
- Liang, C.J., et al. 2008. 20-HETE inhibits the proliferation of vascular smooth muscle cells via transforming growth factor-β. *J. Lipid Res.* 49: 66-73.
- Schmetsdorf, S., et al. 2009. A putative role for cell cycle-related proteins in microtubule-based neuroplasticity. *Eur. J. Neurosci.* 29: 1096-1107.
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