

Cdk4 (C-22): sc-260

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-1-3, PITSLRE and PITSRE. 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 (C-22) is available as either rabbit (sc-260) or goat (sc-260-G) polyclonal antibody raised against a peptide mapping at the C-terminus of Cdk4 of mouse origin.

PRODUCT

Each vial contains 100 µg (sc-260) or 200 µg (sc-260-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-260 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-260 AC, 500 µg/0.25 ml agarose in 1 ml; as HRP conjugate for Western blotting, sc-260 HRP, 200 µg/1 ml; and as fluorescein (sc-260 FITC) or rhodamine (sc-260 TRITC) for use in immunofluorescence, 200 µg/1 ml.

APPLICATIONS

Cdk4 (C-22) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), kinase assay and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cdk4 (C-22) is also recommended for detection of Cdk4 p34 in additional species, including bovine.

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.

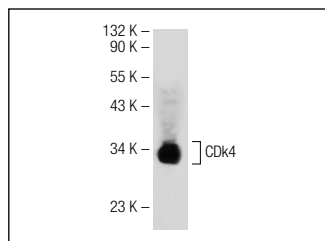
Molecular Weight of Cdk4: 34 kDa.

Positive Controls: Ramos cell lysate: sc-2216 or HeLa nuclear extract: sc-2120.

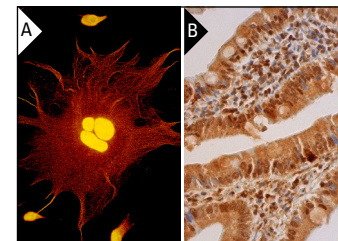
STORAGE

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

DATA



Cdk4 (C-22)-G: sc-260. Western blot analysis of Cdk4 expression in Ramos whole cell lysate.



MHC (G-4): sc-6956. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoskeletal rhodamine immunostaining of myosin heavy chain. Note also nuclear rhodamine immunostaining with Cdk4 (C-22): sc-260 (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and nuclear staining of glandular cells and interstitial cells (B).

SELECT PRODUCT CITATIONS

- Sané, A.T. and Bertrand, R. 1999. Caspase inhibition in camptothecin-treated U-937 cells is coupled with a shift from apoptosis to transient G₁ arrest followed by necrotic cell death. *Cancer Res.* 59: 3565-3569.
- Wang, X., et al. 2012. Combined effect of cyclin D3 expression and abrogation of cyclin D1 prevent mouse skin tumor development. *Cell Cycle* 11: 335-342.
- Wafa, K., et al. 2013. Characterization of growth suppressive functions of a splice variant of cyclin D2. *PLoS ONE* 8: e53503.
- Dufour, J., et al. 2013. Lack of liver x receptors leads to cell proliferation in a model of mouse dorsal prostate epithelial cell. *PLoS ONE* 8: e58876.
- Kundumani-Sridharan, V., et al. 2013. Nuclear factor of activated T cells c1 mediates p21-activated kinase 1 activation in the modulation of chemokine-induced human aortic smooth muscle cell F-actin stress fiber formation, migration and proliferation and injury-induced vascular wall remodeling. *J. Biol. Chem.* 288: 22150-22162.
- Song, X., et al. 2013. Wogonin inhibits tumor angiogenesis via degradation of HIF-1α protein. *Toxicol. Appl. Pharmacol.* 271: 144-155.

RESEARCH USE

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



Try **Cdk4 (DCS-35): sc-23896** or **Cdk4 (DCS-31): sc-56277**, our highly recommended monoclonal alternatives to Cdk4 (C-22). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Cdk4 (DCS-35): sc-23896**.