SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc2 p34 (H-297): sc-747

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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_2 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 KKIALRE.

CHROMOSOMAL LOCATION

Genetic locus: CDC2 (human) mapping to 10q21.2; Cdc2 (mouse) mapping to 10 B5.3.

SOURCE

Cdc2 p34 (H-297) is a rabbit polyclonal antibody raised against amino acids 1-297 representing full length Cdc2 p34 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

Cdc2 p34 (H-297) is recommended for detection of Cdc2 p34 of mouse, rat, human and *Xenopus laevis* 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cdc2 p34 (H-297) is also recommended for detection of Cdc2 p34 in additional species, including equine, canine, bovine and porcine.

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: A-431 nuclear extract: sc-2122, K-562 whole cell lysate: sc-2203 or HeLa nuclear extract: sc-2120.

RESEARCH USE

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

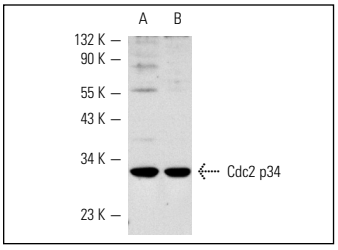
PROTOCOLS

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

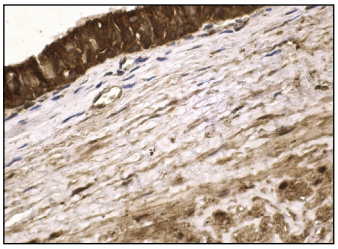
STORAGE

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

DATA



Cdc2 p34 (H-297): sc-747. Western blot analysis of Cdc2 p34 expression in A-431 (**A**) and HeLa (**B**) nuclear extracts.



Cdc2 p34 (H-297): sc-747. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

1. Pockwinse, S.M., et al. 1997. Cell cycle independent interaction of Cdc2 with the centrosome, which is associated with the nuclear matrix intermediate filament scaffold. Proc. Natl. Acad. Sci. USA 94: 3022-3027.
2. Fernandez-Lizarbe, S., et al. 2008. Lipid rafts regulate ethanol-induced activation of TLR4 signaling in murine macrophages. Mol. Immunol. 45: 2007-2016.
3. Schmetsdorf, S., et al. 2009. A putative role for cell cycle-related proteins in microtubule-based neuroplasticity. Eur. J. Neurosci. 29: 1096-1107.
4. Fernandez-Lizarbe, S., et al. 2009. Critical role of TLR4 response in the activation of microglia induced by ethanol. J. Immunol. 183: 4733-4744.
5. LaGory, E.L., et al. 2010. The protein kinase Cδ catalytic fragment is critical for maintenance of the G_2/M DNA damage checkpoint. J. Biol. Chem. 285: 1879-1887.
6. Alam, S., et al. 2010. Downregulation of Cdc2/CDK1 kinase activity induces the synthesis of noninfectious human papillomavirus type 31β virions in organotypic tissues exposed to benzo[a]pyrene. J. Virol. 84: 4630-4645.
7. Bhonde, M.R., et al. 2010. Mismatch repair system decreases cell survival by stabilizing the tetraploid G_1 arrest in response to SN-38. Int. J. Cancer 126: 2813-2825.
8. Bouizar, Z., et al. 2010. 8Cl-cAMP modifies the balance between PKAR1 and PKAR2 and modulates the cell cycle, growth and apoptosis in human adrenocortical H295R cells. J. Mol. Endocrinol. 44: 331-347.