

Cdc2 p34 siRNA (h): sc-29252

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 G₂ 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: CDK1 (human) mapping to 10q21.2.

PRODUCT

Cdc2 p34 siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cdc2 p34 shRNA Plasmid (h): sc-29252-SH and Cdc2 p34 shRNA (h) Lentiviral Particles: sc-29252-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Cdc2 p34 siRNA (h) is recommended for the inhibition of Cdc2 p34 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

PROTOCOLS

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

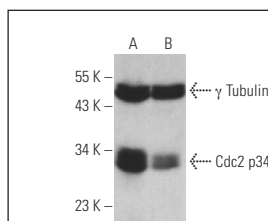
GENE EXPRESSION MONITORING

Cdc2 p34 (17): sc-54 is recommended as a control antibody for monitoring of Cdc2 p34 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

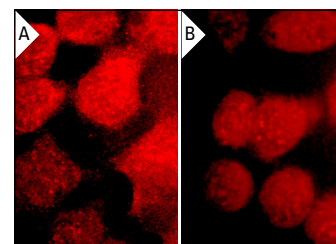
RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cdc2 p34 gene expression knockdown using RT-PCR Primer: Cdc2 p34 (h)-PR: sc-29252-PR (20 μ l, 477 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Cdc2 p34 siRNA (h): sc-29252. Western blot analysis of Cdc2 p34 expression in non-transfected control (A) and Cdc2 p34 siRNA transfected (B) HeLa cells. Blot probed with Cdc2 p34 (B-6): sc-8395. γ Tubulin (C-11): sc-17787 used as specificity and loading control.



Cdc2 p34 siRNA (h): sc-29252. Immunofluorescence staining of methanol-fixed, control HeLa (A) and Cdc2 p34 siRNA silenced HeLa (B) cells showing diminished nuclear staining in the siRNA silenced cells. Cells probed with Cdc2 p34 (17): sc-54.

SELECT PRODUCT CITATIONS

- Choi, H.J., et al. 2011. Role of cyclin B1/Cdc2 up-regulation in the development of mitotic prometaphase arrest in human breast cancer cells treated with nocodazole. *PLoS ONE* 6: e24312.
- Chen, L.Y., et al. 2018. Overexpression of CBX3 in pancreatic adenocarcinoma promotes cell cycle transition-associated tumor progression. *Int. J. Mol. Sci.* 19: 1768.
- Choi, H.J., et al. 2019. Upregulated cyclin B1/Cdk1 mediates apoptosis following 2-methoxyestradiol-induced mitotic catastrophe: role of Bcl-x_L phosphorylation. *Steroids* 150: 108381.
- De Meo, S., et al. 2020. SAMHD1 phosphorylation and cytoplasmic relocalization after human cytomegalovirus infection limits its antiviral activity. *PLoS Pathog.* 16: e1008855.
- Chang, J.G., et al. 2021. Oxidative stress-induced unscheduled CDK1-cyclin B1 activity impairs ER-mitochondria-mediated bioenergetic metabolism. *Cells* 10: 1280.
- Choi, D.H., et al. 2022. Cyclin-dependent kinase 1 inhibition potentiates the proliferation of tonsil-derived mesenchymal stem cells by delaying cellular senescence. *Stem Cells Int.* 2022: 4302992.

RESEARCH USE

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