

PFTAIRES-1 siRNA (h): sc-62779

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. Several additional Cdc2 p34-related cyclin dependent kinases have been identified. These include Cdk3, Cdk4, Cdk5, Cdk6, Cdk7, Cdk8, PCTAIRES-1, PCTAIRES-2, PCTAIRES-3, PFTAIRES-1 and KKIALRE. PFTAIRES-1 demonstrates distribution in the cytoplasm of HeLa cells in spite of its two N-terminal nuclear localization sequences.

REFERENCES

1. Lazzaro, M.A., et al. 1997. Chromosomal mapping of the PFTAIRES gene, Pftk1, a Cdc2-related kinase expressed predominantly in the mouse nervous system. *Genomics* 42: 536-537.
2. Lazzaro, M.A., et al. 1997. A novel Cdc2-related protein kinase expressed in the nervous system. *J. Neurochem.* 69: 348-364.
3. Besset, V., et al. 1998. The identification and characterization of expression of Pftaire-1, a novel Cdk family member, suggest its function in the mouse testis and nervous system. *Mol. Reprod. Dev.* 50: 18-29.
4. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 5: 355-364.
5. Yang, T., et al. 2001. Identification and cellular localization of human PFTAIRES1. *Gene* 267: 165-172.

CHROMOSOMAL LOCATION

Genetic locus: CDK14 (human) mapping to 7q21.13.

PRODUCT

PFTAIRES-1 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs 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 PFTAIRES-1 shRNA Plasmid (h): sc-62779-SH and PFTAIRES-1 shRNA (h) Lentiviral Particles: sc-62779-V as alternate gene silencing products.

For independent verification of PFTAIRES-1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62779A, sc-62779B and sc-62779C.

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

PFTAIRES-1 siRNA (h) is recommended for the inhibition of PFTAIRES-1 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.

GENE EXPRESSION MONITORING

PFTAIRES-1 (C-3): sc-376366 is recommended as a control antibody for monitoring of PFTAIRES-1 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PFTAIRES-1 gene expression knockdown using RT-PCR Primer: PFTAIRES-1 (h)-PR: sc-62779-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhu, J., et al. 2016. Knockdown of PFTAIRES protein kinase 1 (PFTK1) inhibits proliferation, invasion, and EMT in colon cancer cells. *Oncol. Res.* 24: 137-144.

RESEARCH USE

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

PROTOCOLS

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