SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc14b Phosphatase siRNA (m): sc-72834

BACKGROUND

Cdc14b Phosphatase, also known as CDC14 cell division cycle 14 homolog B, is a 498 amino acid protein belonging to the protein-tyrosine phosphatase family. Cdc14b Phosphatase is composed of two structurally identical A and B domains that form a dual specificity protein phosphatase fold, which preferentially dephosphorylates proteins modified by proline-directed kinases. Cdc14b Phosphatase is highly similar to *Saccharomyces cerevisiae* Cdc14, a protein involved in cell cycle control. Localized to the nucleus, Cdc14b Phosphatase is expressed as four isoforms produced by alternative splicing.

REFERENCES

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2. Cho, H.P., et al. 2005. The dual-specificity phosphatase CDC14B bundles and stabilizes microtubules. Mol. Cell. Biol. 25: 4541-4551.
3. Bose, S., et al. 2006. The elusive multiple self-healing squamous epithelioma (MSSE) gene: further mapping, analysis of candidates, and loss of heterozygosity. Oncogene 25: 806-812.
4. Krasinska, L., et al. 2007. Regulation of multiple cell cycle events by Cdc14 homologues in vertebrates. Exp. Cell Res. 313: 1225-1239.
5. Bassermann, F., et al. 2008. The Cdc14B-Cdh1-Plk1 axis controls the G_2 DNA-damage-response checkpoint. Cell 134: 256-267.
6. Berdougo, E., et al. 2008. The nucleolar phosphatase Cdc14B is dispensable for chromosome segregation and mitotic exit in human cells. Cell Cycle 7: 1184-1190.
7. Wu, J., et al. 2008. Cdc14B depletion leads to centriole amplification, and its overexpression prevents unscheduled centriole duplication. J. Cell Biol. 181: 475-483.
8. Rosso, L., et al. 2008. Birth and rapid subcellular adaptation of a hominoid-specific CDC14 protein. PLoS Biol. 6: e140.

CHROMOSOMAL LOCATION

Genetic locus: Cdc14b (mouse) mapping to 13 B3.

PRODUCT

Cdc14b Phosphatase siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cdc14b Phosphatase shRNA Plasmid (m): sc-72834-SH and Cdc14b Phosphatase shRNA (m) Lentiviral Particles: sc-72834-V as alternate gene silencing products.

For independent verification of Cdc14b Phosphatase (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72834A, sc-72834B and sc-72834C.

RESEARCH USE

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Cdc14b Phosphatase siRNA (m) is recommended for the inhibition of Cdc14b Phosphatase expression in mouse 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 µM in 66 µl. 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

Cdc14b Phosphatase (G-8): sc-374572 is recommended as a control antibody for monitoring of Cdc14b Phosphatase 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Cdc14b Phosphatase gene expression knockdown using RT-PCR Primer: Cdc14b Phosphatase (m)-PR: sc-72834-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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