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SANTA CRUZ BIOTECHNOLOGY, INC.

phostensin siRNA (m): sc-152234

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases, specifically PP1 (protein phosphhatase 1), which is targeted to different substrates throughout the cell. Phostensin, also known as KIAA1949, is a 613 amino acid protein that localizes to both the cytoplasm and the cytoskeleton. Expressed predominately in spleen, ovary, lung and liver tissue, phostensin functions as a regulatory subunit that interacts with and targets PP1 to F-Actin in the cytoskeleton. Two isoforms of phostensin exist due to alternative splicing events.

REFERENCES

1. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XXII. The complete sequences of 50 new cDNA clones which code for large proteins. DNA Res. 8: 319-327.
2. Terry-Lorenzo, R.T., et al. 2002. Neurabins recruit protein phosphatase-1 and inhibitor-2 to the Actin cytoskeleton. J. Biol. Chem. 277: 46535-46543.
3. Oliver, C.J., et al. 2002. Targeting protein phosphatase 1 (PP1) to the Actin cytoskeleton: the Neurabin I/PP1 complex regulates cell morphology. Mol. Cell. Biol. 22: 4690-4701.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610990. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Olsen, J.V., et al. 2006. Global, *in vivo,* and site-specific phosphorylation dynamics in signaling networks. Cell 127: 635-648.
6. Kao, S.C., et al. 2007. Identification of phostensin, a PP1 F-Actin cytoskeleton targeting subunit. Biochem. Biophys. Res. Commun. 356: 594-598.

CHROMOSOMAL LOCATION

Genetic locus: Ppp1r18 (mouse) mapping to 17 B1.

PRODUCT

phostensin 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 phostensin shRNA Plasmid (m): sc-152234-SH and phostensin shRNA (m) Lentiviral Particles: sc-152234-V as alternate gene silencing products.

For independent verification of phostensin (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-152234A, sc-152234B and sc-152234C.

PROTOCOLS

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

phostensin siRNA (m) is recommended for the inhibition of phostensin 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

phostensin (H-9): sc-376816 is recommended as a control antibody for monitoring of phostensin 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor phostensin gene expression knockdown using RT-PCR Primer: phostensin (m)-PR: sc-152234-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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