

PIP1 siRNA (h): sc-95403

BACKGROUND

PAK1-interacting protein 1 (PIP1), also known as p21-activated protein kinase-interacting protein 1 or WDR repeat-containing protein 84, is a 392 amino acid nuclear protein. PIP1 acts as a negative regulator of α PAK by binding to the N-terminal regulatory domain of α PAK. This interaction results in an inactive homodimer conformation of α PAK, which inhibits the binding of small, activating GTPases. Overexpression of PIP1 causes abnormally rounded cell morphology and reorganized actin stress fibers in embryonic fibroblasts. Containing five WD repeat domains, PIP1 is expressed in the heart, liver, lung, kidney, muscle, brain, small intestine, colon and thymus.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607811. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Beausoleil, S.A., Jedrychowski, M., Schwartz, D., Elias, J.E., Villen, J., Li, J., Cohn, M.A., Cantley, L.C. and Gygi, S.P. 2004. Large-scale characterization of HeLa cell nuclear phosphoproteins. *Proc. Natl. Acad. Sci. USA* 101: 12130-12135.
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5. Smith, S.D., Jaffer, Z.M., Chernoff, J. and Ridley, A.J. 2008. PAK1-mediated activation of ERK1/2 regulates lamellipodial dynamics. *J. Cell Sci.* 121: 3729-3736.
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CHROMOSOMAL LOCATION

Genetic locus: PAK1IP1 (human) mapping to 6p24.2.

PRODUCT

PIP1 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 PIP1 shRNA Plasmid (h): sc-95403-SH and PIP1 shRNA (h) Lentiviral Particles: sc-95403-V as alternate gene silencing products.

For independent verification of PIP1 (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-95403A, sc-95403B and sc-95403C.

PROTOCOLS

See our web site at www.scbt.com 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 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

PIP1 siRNA (h) is recommended for the inhibition of PIP1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PIP1 gene expression knockdown using RT-PCR Primer: PIP1 (h)-PR: sc-95403-PR (20 μ l). 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.