SANTA CRUZ BIOTECHNOLOGY, INC.

Profilin-3 siRNA (h): sc-61407

BACKGROUND

Profilins regulate Actin polymerization through binding and subsequently sequestering the Actin monomer. Profilins act as a nucleotide exchange factor that charges Actin with ATP after binding the actin monomer through a 1:1 stoichiometric relationship. The overexpression of profilin in endothelial cells results in increased adhesion to fibronectin. Plant profilin is considered a pan allergen, and case studies indicate that individuals with allergies to various foods including celery, carrots, zucchini and peanuts are actually sensitive to the profilin proteins in these foods. The profilin family of proteins includes Profilin-1, Profilin-2 and Profilin-3. Both Profilin-1 and Profilin-2 are abundantly expressed in kidney, while Profilin-3 is testis specific. Profilin-3 affects the structure of the cytoskeleton and may be involved in spermatogenesis.

REFERENCES

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3. Valenta, R., et al. 1992. Profilins constitute a novel family of functional plant pan-allergens. J. Exp. Med. 175: 377-385.
4. Honore, B., et al. 1993. Cloning and expression of a novel human profilin variant, Profilin-2. FEBS Lett. 330: 151-155.
5. Naylor, S.L., et al. 1996. Report of the sixth international workshop on human chromosome 3 mapping 1995. Cytogenet. Cell Genet. 72: 255-270.
6. Moldovan, N.I., et al. 1997. Regulation of endothelial cell adhesion by profilin. Curr. Biol. 7: 24-30.
7. Witke, W., et al. 1998. In mouse brain Profilin-1 and Profilin-2 associate with regulators of the endocytic pathway and Actin assembly. EMBO J. 17: 967-976.
8. Braun, A., et al. 2002. Genomic organization of Profilin-3 and evidence for a transcript expressed exclusively in testis. Gene 283: 219-225.
9. Schmutz, J., et. al. 2004. The DNA sequence and comparative analysis of human chromosome 5. Nature 431: 268-274.

CHROMOSOMAL LOCATION

Genetic locus: PFN3 (human) mapping to 5q35.3.

PRODUCT

Profilin-3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Profilin-3 shRNA Plasmid (h): sc-61407-SH and Profilin-3 shRNA (h) Lentiviral Particles: sc-61407-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 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

Profilin-3 siRNA (h) is recommended for the inhibition of Profilin-3 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Profilin-3 gene expression knockdown using RT-PCR Primer: Profilin-3 (h)-PR: sc-61407-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.

PROTOCOLS

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