

Profilin-4 siRNA (h): sc-94769

BACKGROUND

Profilin-4, also known as Profilin IV or PFN4 (Profilin family, member 4), is a 129 amino acid protein that belongs to the Profilin family and localizes to cytoplasm and cytoskeleton. Profilin-4 binds to Actin and plays a role in cytoskeleton structure. Encoded by a gene that maps to human chromosome 2p23.3, Profilin-4 is conserved in canine, bovine, mouse, rat and chicken. Multiple Profilin isoforms exist in mammals, with four known to be expressed in mammalian testis: Profilin-1, Profilin-2, Profilin-3 and Profilin-4. Similar to Profilin-3, testis-specific Profilin-4 may have a specialized role in spermatogenic cells distinct from known functions fulfilled by the "somatic" Profilins, Profilin-1 and Profilin-2. Conversely, the Actin-binding site of Profilin-3 is conserved and approximately half of the common poly-L-proline binding site is retained, while Profilin-4 has lost both polyproline and actin binding sites completely. Although Profilin-4 does not interact with actin or polyproline *in vitro*, it appears to be specialized for phospholipid binding and may provide cellular functions that are distinct from actin dynamics regulation.

REFERENCES

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: PFN4 (human) mapping to 2p23.3.

PRODUCT

Profilin-4 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 Profilin-4 shRNA Plasmid (h): sc-94769-SH and Profilin-4 shRNA (h) Lentiviral Particles: sc-94769-V as alternate gene silencing products.

For independent verification of Profilin-4 (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-94769A, sc-94769B and sc-94769C.

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

Profilin-4 siRNA (h) is recommended for the inhibition of Profilin-4 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 Profilin-4 gene expression knockdown using RT-PCR Primer: Profilin-4 (h)-PR: sc-94769-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.