

SMCP siRNA (h): sc-78562

BACKGROUND

Sperm mitochondria differ from somatic cell mitochondria in that they are flattened, elongated and arranged to form a helical coiled sheath in the mid-piece of the sperm flagellum. SMCP (sperm mitochondria-associated cysteine-rich protein), also known as MCS or MCSP, is a 116 amino acid cytoplasmic protein that is found in the outer capsule that is associated with sperm mitochondria. Expressed specifically in spermatids of seminiferous tubules, SMCP is thought to be involved in the organization and stabilization of the helical sheath structure and may play a role in overall sperm motility. SMCP has a short N-terminal segment, a C-terminal lysine and several internal cysteines. Defects in the gene encoding SMCP may be a cause of male infertility due to both reduced sperm motility and an inability to pierce the zona pellucida of the female egg.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: SMCP (human) mapping to 1q21.3.

RESEARCH USE

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

PRODUCT

SMCP siRNA (h) is a pool of 2 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 SMCP shRNA Plasmid (h): sc-78562-SH and SMCP shRNA (h) Lentiviral Particles: sc-78562-V as alternate gene silencing products.

For independent verification of SMCP (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-78562A and sc-78562B.

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

SMCP siRNA (h) is recommended for the inhibition of SMCP 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 SMCP gene expression knockdown using RT-PCR Primer: SMCP (h)-PR: sc-78562-PR (20 μ l). 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.