SANTA CRUZ BIOTECHNOLOGY, INC.

MOSPD3 siRNA (h): sc-89840

BACKGROUND

MOSPD3 (motile sperm domain-containing protein 3), also known as CDS3, is a 235 amino acid multi-pass membrane protein that contains one MSP (major sperm protein) domain. The MSP domain, a critical component of sperm motility, has a seven-stranded beta sandwich and an immuoglobulin-like fold. MSP domains polymerize into helical, non-polar fragments that form a cytoskeleton made from intermeshed filaments. The intermeshed structure then assembles into large macromolecular complexes that play an important role in sperm movement. MOSPD3 is thought to be involved in development of the right ventricle, suggesting that the MSP domain may participate in cardiac development, as well as spermiogenesis. Three isoforms of MOSPD3 are expressed due to alternative splicing events.

REFERENCES

1. Bullock, T.L., et al. 1996. 2.5 A resolution crystal structure of the motile major sperm protein (MSP) of Ascaris suum. J. Mol. Biol. 263: 284-296.
2. Glöckner, G., et al. 1998. Large-scale sequencing of two regions in human chromosome 7q22: analysis of 650 kb of genomic sequence around the EPO and CUTL1 loci reveals 17 genes. Genome Res. 8: 1060-1073.
3. Nishimura, Y., et al. 1999. Molecular cloning and characterization of mammalian homologues of vesicle-associated membrane protein-associated (VAMP-associated) proteins. Biochem. Biophys. Res. Commun. 254: 21-26.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609125. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Pall, G.S., et al. 2004. A novel transmembrane MSP-containing protein that plays a role in right ventricle development. Genomics 84: 1051-1059.
6. Wang, Y., et al. 2006. Tyrosine phosphorylated Par3 regulates epithelial tight junction assembly promoted by EGFR signaling. EMBO J. 25: 5058-5070.

CHROMOSOMAL LOCATION

Genetic locus: MOSPD3 (human) mapping to 7q22.1.

PRODUCT

MOSPD3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MOSPD3 shRNA Plasmid (h): sc-89840-SH and MOSPD3 shRNA (h) Lentiviral Particles: sc-89840-V as alternate gene silencing products.

For independent verification of MOSPD3 (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-89840A, sc-89840B and sc-89840C.

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 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

MOSPD3 siRNA (h) is recommended for the inhibition of MOSPD3 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.

GENE EXPRESSION MONITORING

MOSPD3 (C-6): sc-514923 is recommended as a control antibody for monitoring of MOSPD3 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 reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MOSPD3 gene expression knockdown using RT-PCR Primer: MOSPD3 (h)-PR: sc-89840-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.