

PSPC1 siRNA (m): sc-152566

BACKGROUND

PSPC1 (paraspeckle component 1), also known as PSP1, is a 523 amino acid protein that localizes to both the cytoplasm and the nuclear matrix and contains two RRM (RNA recognition motif) domains. Expressed in liver, kidney, pancreas, heart, brain, placenta and skeletal muscle, PSPC1 is able to form heterodimers with p54/nrb and functions to regulate androgen receptor-mediated gene transcription activity, specifically in sertoli cell lines. PSPC1 exists as two alternatively spliced isoforms, designated α and β , which are subject to DNA damage-dependent phosphorylation, probably by ATR or ATM. The gene encoding PSPC1 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Andersen, J.S., et al. 2002. Directed proteomic analysis of the human nucleolus. *Curr. Biol.* 12: 1-11.
2. Fox, A.H., et al. 2002. Paraspeckles: a novel nuclear domain. *Curr. Biol.* 12: 13-25.
3. Ishitani, K., et al. 2003. p54/nrb acts as a transcriptional coactivator for activation function 1 of the human androgen receptor. *Biochem. Biophys. Res. Commun.* 306: 660-665.
4. Myojin, R., et al. 2004. Expression and functional significance of mouse paraspeckle protein 1 on spermatogenesis. *Biol. Reprod.* 71: 926-932.

CHROMOSOMAL LOCATION

Genetic locus: Pspc1 (mouse) mapping to 14 C3.

PRODUCT

PSPC1 siRNA (m) 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 PSPC1 shRNA Plasmid (m): sc-152566-SH and PSPC1 shRNA (m) Lentiviral Particles: sc-152566-V as alternate gene silencing products.

For independent verification of PSPC1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152566A, sc-152566B and sc-152566C.

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

PSPC1 siRNA (m) is recommended for the inhibition of PSPC1 expression in mouse 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.

GENE EXPRESSION MONITORING

PSPC1 (G-7): sc-374387 is recommended as a control antibody for monitoring of PSPC1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 PSPC1 gene expression knockdown using RT-PCR Primer: PSPC1 (m)-PR: sc-152566-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kleene, R., et al. 2023. The KDET motif in the intracellular domain of the cell adhesion molecule L1 interacts with several nuclear, cytoplasmic, and mitochondrial proteins essential for neuronal functions. *Int. J. Mol. Sci.* 24: 932.

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.