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SPSY siRNA (h): sc-45279

BACKGROUND

Spermine synthase (SPSY) catalyzes the production of spermine from spermidine. Spermine, a polyamine ubiquitously present in most organisms, is essential for normal cell growth and differentiation. Because absence of spermine increases sensitivity of cells to anti-tumor agents, spermine synthase (and other polyamine biosynthesis) is an attractive target for anti-neoplastic therapy.

REFERENCES

1. Hamasaki-Katagiri, N., et al. 1998. Spermine is not essential for growth of *Saccharomyces cerevisiae*: identification of the SPE4 gene (spermine synthase) and characterization of a SPE-4 deletion mutant. *Gene* 210: 195-201
2. Nilsson, J., et al. 2000. Skin fibroblasts from spermine synthase-deficient hemizygous gyro male (Gy/Y) mice overproduce spermidine and exhibit increased resistance to oxidative stress but decreased resistance to UV irradiation. *Biochem. J.* 352: 381-387
3. Korhonen, V.P., et al. 2001. Spermine deficiency resulting from targeted disruption of the spermine synthase gene in embryonic stem cells leads to enhanced sensitivity to antiproliferative drugs. *Mol. Pharmacol.* 59: 231-238
4. Ikeguchi, Y., et al. 2003. Effect of spermine synthase on the sensitivity of cells to anti-tumor agents. *Biochem. J.* 373: 885-892
5. Sieler, N. 2003. Thirty years of polyamine-related approaches to cancer therapy. *Curr. Drug Targets* 4: 537-564

CHROMOSOMAL LOCATION

Genetic locus: SMS (human) mapping to Xp22.11.

PRODUCT

SPSY 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 SPSY shRNA Plasmid (h): sc-45279-SH and SPSY shRNA (h) Lentiviral Particles: sc-45279-V as alternate gene silencing products.

For independent verification of SPSY (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-45279A, sc-45279B and sc-45279C.

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.

RESEARCH USE

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

APPLICATIONS

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

GENE EXPRESSION MONITORING

SPSY (A-4): sc-376294 is recommended as a control antibody for monitoring of SPSY 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 SPSY gene expression knockdown using RT-PCR Primer: SPSY (h)-PR: sc-45279-PR (20 μ l, 600 bp). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

PROTOCOLS

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