SANTA CRUZ BIOTECHNOLOGY, INC.

SSAT siRNA (m): sc-61617

BACKGROUND

Polyamines are required for optimal growth and function of cells. Regulation of their cellular homeostasis is therefore tightly controlled. The key regulatory enzyme for polyamine catabolism is the spermidine/spermine N^1-acetyltransferase (SSAT). Depletion of cellular polyamines has been associated with inhibition of growth and programmed cell death. SSAT first acetylates spermidine and spermine, which then are oxidized by polyamine oxidase to produce putrescine and spermidine, respectively. SSAT has been shown to suppress tumor outgrowth and be a potential target for therapeutic purposes.

REFERENCES

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2. Coleman, C.S. and Pegg, A.E. 2001. Polyamine analogues inhibit the ubiquitination of spermidine/spermine N^1-acetyltransferase and prevent its targeting to the proteasome for degradation. Biochem. J. 358: 137-145.
3. Gavin, I.M., et al. 2004. Spermine acts as a negative regulator of macrophage differentiation in human myeloid leukemia cells. Cancer Res. 64: 7432-7438.
4. Chen, C., et al. 2004. Spermidine/spermine N^1-acetyltransferase specifically binds to the integrin α9 subunit cytoplasmic domain and enhances cell migration. J. Cell Biol. 167: 161-170.
5. Kim, K., et al. 2005. Induction of a SSAT isoform in response to hypoxia or iron deficiency and its protective effects on cell death. Biochem. Biophys. Res. Commun. 331: 78-85.
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7. Pietila, M., et al. 2005. Disturbed keratinocyte differentiation in transgenic mice and organotypic keratinocyte cultures as a result of spermidine/spermine N-acetyltransferase overexpression. J. Invest. Dermatol. 124: 596-601.
8. Tucker, J.M., et al. 2005. Potent modulation of catabolic enzyme spermidine/spermine N^1-acetyltransferase. Cancer Res. 65: 5390-5398.

CHROMOSOMAL LOCATION

Genetic locus: Sat1 (mouse) mapping to X F3.

PRODUCT

SSAT 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SSAT shRNA Plasmid (m): sc-61617-SH and SSAT shRNA (m) Lentiviral Particles: sc-61617-V as alternate gene silencing products.

For independent verification of SSAT (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-61617A, sc-61617B and sc-61617C.

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

SSAT siRNA (m) is recommended for the inhibition of SSAT 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SSAT gene expression knockdown using RT-PCR Primer: SSAT (m)-PR: sc-61617-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.

PROTOCOLS

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