SANTA CRUZ BIOTECHNOLOGY, INC.

S-Myc siRNA (m): sc-38088

BACKGROUND

The Myc family of genes includes five functional members, including c-Myc, L-Myc, N-Myc, B-Myc, and S-Myc. The S-Myc gene maps to the rat chromosome 19B and encodes a 429 amino acid protein. S-Myc is closely related to N-Myc, but lacks an acidic amino-acid rich sequence commonly present in the Myc family proteins. S-Myc is also very similar to c-Myc in its ability to induce apoptosis through the caspase activation pathway. S-Myc is distinct from c-Myc in that it has tumor suppressor activity and does not require p53 to induce apoptosis. The high level of S-Myc mRNA expression in nude mice suppresses the tumorigenicity of RT4-AC tumor cells, suggesting that S-Myc acts as a negative regulator of tumor growth. S-Myc may also play an important role in the transcriptional regulation of a set of genes whose expression induces programmed cell death both *in vitro* and *in vivo*.

REFERENCES

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2. Sugiyama, A., et al. 1989. Isolation and characterization of S-Myc, a member of the rat Myc gene family. Proc. Natl. Acad. Sci. USA 86: 9144-9148.
3. Asai, A., et al. 1994. The S-Myc protein having the ability to induce apoptosis is selectively expressed in rat embryo chondrocytes. Oncogene 9: 2345-2352.
4. Kuchino, Y., et al. 1996. Myc-mediated apoptosis. Prog. Mol. Subcell. Biol. 16: 104-129.
5. Kagaya, S., et al. 1997. A functional role fordeath proteases in S-Myc and c-Myc-mediated apoptosis. Mol. Cell. Biol. 17: 6736-6745.
6. Dang, C.V. 1999. c-Myc target genes involved in cell growth, apoptosis, and metabolism. Mol. Cell. Biol. 19: 1-11.
7. Sugiyama, A., et al. 1999. Molecular cloning and chromosomal mapping of mouse intronless Myc gene acting as a potent apoptosis inducer. Gene 226: 273-283.
8. Noguchi, K., et al. 2000. Differentital role of the JNK and p38 MAPK pathway in c-Myc- and S-Myc-mediated apoptosis. Biochem. Biophys. Res. Commun. 267: 221-227.

CHROMOSOMAL LOCATION

Genetic locus: Mycs (mouse) mapping to X A1.1.

PRODUCT

S-Myc 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 S-Myc shRNA Plasmid (m): sc-38088-SH and S-Myc shRNA (m) Lentiviral Particles: sc-38088-V as alternate gene silencing products.

For independent verification of S-Myc (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-38088A, sc-38088B and sc-38088C.

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

S-Myc siRNA (m) is recommended for the inhibition of S-Myc 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 S-Myc gene expression knockdown using RT-PCR Primer: S-Myc (m)-PR: sc-38088-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.