SANTA CRUZ BIOTECHNOLOGY, INC.

NSUN7 siRNA (m): sc-75971

BACKGROUND

The nucleolus consists of a number of specific proteins that play a critical role in the assembly of ribosomes, as well as in the maintenance and structural integrity of the nucleolus. NSUN7 (NOL1/NOP2/Sun domain family, member 7) is a 718 amino acid protein that belongs to the methyltransferase superfamily. It is thought that NSUN7 is involved in mitochondrial rRNA processing in postmeiotic sperm and that disruption of the gene causes a general deficiency of mRNA translation and of the proteins required for optimal sperm function. Existing as three isoforms due to alternative splicing, NSUN7 may have S-adenosyl-L-methionine-dependent methyl-transferase activity.

REFERENCES

1. Wu, P., Brockenbrough, J.S., Paddy, M.R. and Aris, J.P. 1998. NCL1, a novel gene for a non-essential nuclear protein in *Saccharomyces cerevisiae.* Gene 220: 109-117.
2. Merla, G., Ucla, C., Guipponi, M. and Reymond, A. 2002. Identification of additional transcripts in the Williams-Beuren syndrome critical region. Hum. Genet. 110: 429-438.
3. Frye, M. and Watt, F.M. 2006. The RNA methyltransferase Misu (NSun2) mediates Myc-induced proliferation and is upregulated in tumors. Curr. Biol. 16: 971-981.
4. Harris, T., Marquez, B., Suarez, S. and Schimenti, J. 2007. Sperm motility defects and infertility in male mice with a mutation in Nsun7, a member of the Sun domain-containing family of putative RNA methyltransferases. Biol. Reprod. 77: 376-382.
5. Sakita-Suto, S., Kanda, A., Suzuki, F., Sato, S., Takata, T. and Tatsuka, M. 2007. Aurora-B regulates RNA methyltransferase NSUN2. Mol. Biol. Cell 18: 1107-1117.
6. SWISS-PROT/TrEMBL (Q8NE18). World Wide Web URL: http://www.uniprot.org/uniprot/Q8NE18

CHROMOSOMAL LOCATION

Genetic locus: Nsun7 (mouse) mapping to 5 C3.1.

PRODUCT

NSUN7 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 NSUN7 shRNA Plasmid (m): sc-75971-SH and NSUN7 shRNA (m) Lentiviral Particles: sc-75971-V as alternate gene silencing products.

For independent verification of NSUN7 (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-75971A, sc-75971B and sc-75971C.

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

NSUN7 siRNA (m) is recommended for the inhibition of NSUN7 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 NSUN7 gene expression knockdown using RT-PCR Primer: NSUN7 (m)-PR: sc-75971-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.