SANTA CRUZ BIOTECHNOLOGY, INC.

Nop58 siRNA (h): sc-40907

BACKGROUND

Methylation of the ribose 2'-hydroxyl, the most widespread modification of ribosomal and splicesomal RNAs, is guided by the box C/D class of small nucleolar RNAs (snoRNAs). Box C/D small nucleolar ribonucleoproteins (snoRNPs) contain four core proteins: fibrillarin, Nop56, Nop58 and 15.5. These four proteins consist of two protein pairs: members of each pair are highly related in sequence. One protein pair corresponds to the essential yeast nucleolar proteins Nop56p and Nop58p. The homologous proteins Nop56 and Nop58 and 61K (hPrp31) associate with the box C/D snoRNPs and the U4/U6 snRNP, respectively. Both Nop56 and Nop58 are associated with Nopl in complexes, Nop56 and Nop1 exhibiting a stoichiometric association, and are required for ribosome biogenesis. Nop58 is 46.8% identical to *Saccharomyces cerevisiae* Nop5/Nop58.

REFERENCES

1. Gautier, T., Berges, T., Tollervey, D. and Hurt, E. 1997. 1997. Nucleolar KKE/D repeat proteins Nop56p and Nop58p interact with Nop1p and are required for ribosome biogenesis. Mol. Cell. Biol. 17: 7088-7098.
2. Lyman, S.K., Gerace, L. and Baserga, S.J. 1999. Human Nop5/Nop58 is a component common to the box C/D small nucleolar ribonucleoproteins. RNA 5: 1597-1604.
3. Newman, D.R., Kuhn, J.F., Shanab, G.M. and Maxwell, E.S. 2000. Box C/D snoRNA-associated proteins: two pairs of evolutionarily ancient proteins and possible links to replication and transcription. RNA 6: 861-879.
4. Watkins, N.J., Dickmanns, A. and Luhrmann, R. 2002. Conserved stem II of the box C/D motif is essential for nucleolar localization and is required, along with the 15.5K protein, for the hierarchical assembly of the box C/D snoRNP. Mol. Cell. Biol. 22: 8342-8352.
5. Cahill, N.M., Terns, M.P. and Steitz, J.A. 2002. Site-specific cross-linking analyses reveal an asymmetric protein distribution for a box C/D snoRNP. EMBO J. 21: 3816-3828.

CHROMOSOMAL LOCATION

Genetic locus: NOP58 (human) mapping to 2q33.1.

PRODUCT

Nop58 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Nop58 shRNA Plasmid (h): sc-40907-SH and Nop58 shRNA (h) Lentiviral Particles: sc-40907-V as alternate gene silencing products.

For independent verification of Nop58 (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-40907A, sc-40907B and sc-40907C.

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

Nop58 siRNA (h) is recommended for the inhibition of Nop58 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 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 Nop58 gene expression knockdown using RT-PCR Primer: Nop58 (h)-PR: sc-40907-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wurth, L., et al. 2014. Hypermethylated-capped selenoprotein mRNAs in mammals. Nucleic Acids Res. 42: 8663-8677.

RESEARCH USE

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