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# Nop25 siRNA (m): sc-150032

## BACKGROUND

Nop25, also known as NOL12 (nucleolar protein 12) is a 213 amino acid protein that localizes to the nucleolus and is thought to bind to 28S rRNA, possibly playing a role in the processing of rRNA molecules and in the subsequent assembly and maturation of ribosomes. The gene encoding Nop25 maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, Neurofibromatosis type 2, autism and schizophrenia. Additionally, translocations between chromosomes 9 and 22 may lead to the formation of the Philadelphia Chromosome and the subsequent production of the novel fusion protein Bcr-Abl, a potent cell proliferation activator found in several types of leukemias.

## REFERENCES

1. Gilbert, F. 1998. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 22. Genet. Test.* 2: 89-97.
2. Schwab, S.G. and Wildenauer, D.B. 1999. Chromosome 22 workshop report. *Am. J. Med. Genet.* 88: 276-278.
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4. Arinami, T. 2006. Analyses of the associations between the genes of 22q11 deletion syndrome and schizophrenia. *J. Hum. Genet.* 51: 1037-1045.
5. Paylor, R., et al. 2006. Tbx1 haploinsufficiency is linked to behavioral disorders in mice and humans: implications for 22q11 deletion syndrome. *Proc. Natl. Acad. Sci. USA* 103: 7729-7734.
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7. Suzuki, S., et al. 2006. Molecular cloning and characterization of Nop25, a novel nucleolar RNA binding protein, highly conserved in vertebrate species. *Exp. Cell Res.* 312: 1031-1041.
8. Fujiwara, T., et al. 2006. Mapping a nucleolar targeting sequence of an RNA binding nucleolar protein, Nop25. *Exp. Cell Res.* 312: 1703-1712.
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## CHROMOSOMAL LOCATION

Genetic locus: NOL12 (mouse) mapping to 15 E1.

## PRODUCT

Nop25 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Nop25 shRNA Plasmid (m): sc-150032-SH and Nop25 shRNA (m) Lentiviral Particles: sc-150032-V as alternate gene silencing 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Nop25 siRNA (m) is recommended for the inhibition of Nop25 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  $\mu$ M in 66  $\mu$ 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

Nop25 (E-2): sc-374257 is recommended as a control antibody for monitoring of Nop25 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 Nop25 gene expression knockdown using RT-PCR Primer: Nop25 (m)-PR: sc-150032-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.