

Nup107 siRNA (m): sc-150117

BACKGROUND

Nuclear pore complexes (NPCs) are the channels for the bi-directional movement of macromolecules between the nucleus and cytoplasm, and contain more than 100 different subunits. Many of them belong to a family called nucleoporins, which are characterized by the presence of O-linked N-acetylglucosamine moieties and a distinctive pentapeptide repeat (XFXFG). Nuclear pore complex protein Nup107 (nucleoporin Nup107) is an essential part of the nuclear pore complex which is composed of Nup133, Nup160, Nup107 and Nup96. Nup107 is active in assembling peripheral proteins into this complex. The protein, located on both the nuclear and cytoplasmic sides of the pore, is important in RNA export.

REFERENCES

1. McMorro, I., et al. 1994. Sequence analysis of cDNA encoding a human nuclear pore complex protein, hNup152. *Biochim. Biophys. Acta* 1217: 219-223.
2. Bodoor, K., et al. 1999. Sequential recruitment of NPC proteins to the nuclear periphery at the end of mitosis. *J. Cell Sci.* 112: 2253-2264.
3. Boehmer, T., et al. 2003. Depletion of a single nucleoporin, Nup107, prevents the assembly of a subset of nucleoporins into the nuclear pore complex. *Proc. Natl. Acad. Sci. USA* 100: 981-985.
4. Harel, A., et al. 2003. Removal of a single pore subcomplex results in vertebrate nuclei devoid of nuclear pores. *Mol. Cell* 11: 853-864.
5. Walther, T.C., et al. 2003. The conserved Nup107-160 complex is critical for nuclear pore complex assembly. *Cell* 113: 195-206.
6. SWISS-PROT/TrEMBL (P57740). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: Nup107 (mouse) mapping to 10 D2.

PRODUCT

Nup107 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Nup107 shRNA Plasmid (m): sc-150117-SH and Nup107 shRNA (m) Lentiviral Particles: sc-150117-V as alternate gene silencing products.

For independent verification of Nup107 (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-150117A, sc-150117B and sc-150117C.

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.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Nup107 siRNA (m) is recommended for the inhibition of Nup107 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 μ M in 66 μ 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Nup107 gene expression knockdown using RT-PCR Primer: Nup107 (m)-PR: sc-150117-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.