

# Nup133 siRNA (h): sc-60035

## 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 Nup133 (nucleoporin Nup133) is located on both the cytoplasmic and nuclear sides of the nuclear pore, localizing to the kinetochores during mitosis. It forms a part of the Nup160 nuclear pore subcomplex together with Nup160, Nup96 and Nup107. This complex is important in RNA export.

## REFERENCES

1. McMorow, 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. Belgareh, N., et al. 2001. An evolutionarily conserved NPC subcomplex, which redistributes in part to kinetochores in mammalian cells. *J. Cell Biol.* 154: 1147-1160.
4. Vasu, S., et al. 2001. Novel vertebrate nucleoporins Nup133 and Nup160 play a role in mRNA export. *J. Cell Biol.* 155: 339-354.
5. Berke, I.C., et al. 2004. Structural and functional analysis of Nup133 domains reveals modular building blocks of the nuclear pore complex. *J. Cell Biol.* 167: 591-597.

## CHROMOSOMAL LOCATION

Genetic locus: NUP133 (human) mapping to 1q42.13.

## PRODUCT

Nup133 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Nup133 shRNA Plasmid (h): sc-60035-SH and Nup133 shRNA (h) Lentiviral Particles: sc-60035-V as alternate gene silencing products.

For independent verification of Nup133 (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-60035A, sc-60035B and sc-60035C.

## 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

Nup133 siRNA (h) is recommended for the inhibition of Nup133 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  $\mu$ 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

Nup133 (E-6): sc-376763 is recommended as a control antibody for monitoring of Nup133 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Nup133 gene expression knockdown using RT-PCR Primer: Nup133 (h)-PR: sc-60035-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Kinoshita, Y., et al. 2012. Alterations in nuclear pore architecture allow cancer cell entry into or exit from drug-resistant dormancy. *Am. J. Pathol.* 180: 375-389.

## 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.