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Nup35 siRNA (m): sc-155921

BACKGROUND

The nuclear pore complex (NPC) mediates bidirectional macromolecular traffic between the nucleus and cytoplasm in eukaryotic cells and is comprised of more than 100 different subunits. Many of the subunits belong to a family called nucleoporins (Nups), which are characterized by the presence of O-linked-N-acetylglucosamine moieties and a distinctive pentapeptide repeat (XFXFG). Nup35 (nucleoporin 35 kDa), also known as mitotic phosphoprotein 44, Nup53, MP44 or NP44, is a 326 amino acid nuclear protein belonging to the Nup53 family and is a component of the nuclear pore complex. Nup35 localizes to the nuclear rim and is also known to associate with nuclear membrane and lamina. Containing one MPPN (mitotic phosphoprotein N' end) domain, Nup35 contains multiple phenylalanine-glycine repeats and phosphoserine and phosphothreonine residues. Known to interact with NDC1, Lamin B, Nup205, Nup155 and Nup93, Nup35 likely assists in associations between Mad 1 and NPC. The gene encoding Nup35 maps to human chromosome 2q32.1.

REFERENCES

1. Cronshaw, J.M., et al. 2002. Proteomic analysis of the mammalian nuclear pore complex. *J. Cell Biol.* 158: 915-927.
2. Hawryluk-Gara, L.A., et al. 2005. Vertebrate Nup53 interacts with the nuclear lamina and is required for the assembly of a Nup93-containing complex. *Mol. Biol. Cell* 16: 2382-2394.
3. Handa, N., et al. 2006. The crystal structure of mouse Nup35 reveals atypical RNP motifs and novel homodimerization of the RRM domain. *J. Mol. Biol.* 363: 114-124.
4. Mansfeld, J., et al. 2006. The conserved transmembrane nucleoporin NDC1 is required for nuclear pore complex assembly in vertebrate cells. *Mol. Cell* 22: 93-103.
5. Pan, Y., et al. 2007. Mislocalization of prelamin A Tyr646Phe mutant to the nuclear pore complex in human embryonic kidney 293 cells. *Biochem. Biophys. Res. Commun.* 355: 78-84.
6. Lusk, C.P., et al. 2007. Nup53p is a target of two mitotic kinases, Cdk1p and Hrr25p. *Traffic* 8: 647-660.

CHROMOSOMAL LOCATION

Genetic locus: Nup35 (mouse) mapping to 2 C3.

PRODUCT

Nup35 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 Nup35 shRNA Plasmid (m): sc-155921-SH and Nup35 shRNA (m) Lentiviral Particles: sc-155921-V as alternate gene silencing products.

For independent verification of Nup35 (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-155921A, sc-155921B and sc-155921C.

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

Nup35 siRNA (m) is recommended for the inhibition of Nup35 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 Nup35 gene expression knockdown using RT-PCR Primer: Nup35 (m)-PR: sc-155921-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chen, F., et al. 2018. Nucleoporin35 is a novel microtubule associated protein functioning in oocyte meiotic spindle architecture. *Exp. Cell Res.* 371: 435-443.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.