

# NELIN siRNA (m): sc-149909

## BACKGROUND

NELIN, also known as nexilin, F actin binding protein or NEXN, is a 675 amino acid filamentous Actin-binding protein that regulates cell migration. Localizing to the cytoskeleton, cell junction, cytoplasm and sarcomere, NELIN exists as three alternatively spliced isoforms and contains one Ig-like (immunoglobulin-like) domain. A binding partner for F-actin, NELIN is highly expressed in skeletal muscle and heart, and is found at lower levels in pancreas, liver, placenta and lung. The gene encoding NELIN maps to human chromosome 1p31.1. Defects in this gene are the cause of cardiomyopathy dilated type 1CC (CMD1CC) and cardiomyopathy familial hypertrophic type 20 (CMH20), both of which effect the ventricles and increase the risk of premature death. Human chromosome 1 spans 260 million base pairs, contains over 3,000 genes and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease and Gaucher disease.

## REFERENCES

- Ohtsuka, T., et al. 1998. Nexilin: a novel Actin filament-binding protein localized at cell-matrix adherens junction. *J. Cell Biol.* 143: 1227-1238.
- Tayebi, N., et al. 2001. Gaucher disease and parkinsonism: a phenotypic and genotypic characterization. *Mol. Genet. Metab.* 73: 313-321.
- Zhao, Y., et al. 2001. Molecular cloning of NELIN, a putative human cytoskeleton regulation gene. *Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao* 33: 19-24.
- Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
- Wang, W., et al. 2005. NELIN, a new F-Actin associated protein, stimulates HeLa cell migration and adhesion. *Biochem. Biophys. Res. Commun.* 330: 1127-1131.
- Yokoi, T., et al. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. *Graefes Arch. Clin. Exp. Ophthalmol.* 247: 715-718.
- Hassel, D., et al. 2009. Nexilin mutations destabilize cardiac Z-disks and lead to dilated cardiomyopathy. *Nat. Med.* 15: 1281-1288.

## CHROMOSOMAL LOCATION

Genetic locus: Nexn (mouse) mapping to 3 H3.

## PRODUCT

NELIN 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NELIN shRNA Plasmid (m): sc-149909-SH and NELIN shRNA (m) Lentiviral Particles: sc-149909-V as alternate gene silencing products.

For independent verification of NELIN (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-149909A, sc-149909B and sc-149909C.

## 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

NELIN siRNA (m) is recommended for the inhibition of NELIN 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NELIN gene expression knockdown using RT-PCR Primer: NELIN (m)-PR: sc-149909-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

- Li, Q., et al. 2018. Nexilin regulates oligodendrocyte progenitor cell migration and remyelination and is negatively regulated by protease-activated receptor 1/ras-proximate-1 signaling following subarachnoid hemorrhage. *Front. Neurol.* 9: 282.

## 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.