SANTA CRUZ BIOTECHNOLOGY, INC.

NORRIN siRNA (m): sc-61218

BACKGROUND

The NDP (Norrie disease protein) gene encodes the secreted NORRIN protein. Mutations in this gene lead to Norrie disease, a rare X-linked disorder characterized by congenital blindness, deafness and mental retardation. X-linked familial exudative vitreoretinopathy (XL-FEVR), an ocular disorder characterized by a failure of peripheral retinal vascularization, is also associated with mutations in the NDP gene. NORRIN utilizes the Wnt/frizzled signaling pathway and plays a role in vascular development. Research indicates that it induces growth of ocular capillaries and that pharmacologic regulation of NORRIN may be useful for treatment of the vascular abnormalities associated with Norrie disease or other vascular disorders of the retina.

REFERENCES

1. Katoh, M., et al. 2005. Comparative genomics on Norrie disease gene. Int. J. Mol. Med. 15: 885-889.
2. Luhmann, U.F., et al. 2005. Fetal loss in homozygous mutant Norrie disease mice: a new role of Norrin in reproduction. Genesis 42: 253-262.
3. Luhmann, U.F., et al. 2005. Role of the Norrie disease pseudoglioma gene in sprouting angiogenesis during development of the retinal vasculature. Invest. Ophthalmol. Vis. Sci. 46: 3372-3382.
4. Ohlmann, A., et al. 2005. Ectopic norrin induces growth of ocular capillaries and restores normal retinal angiogenesis in Norrie disease mutant mice. J. Neurosci. 25: 1701-1710.
5. Riveiro-Alvarez, R., et al. 2005. Genotype-phenotype variations in five Spanish families with Norrie disease or X-linked FEVR. Mol. Vis. 11: 705-712.

CHROMOSOMAL LOCATION

Genetic locus: Ndp (mouse) mapping to X A1.2.

PRODUCT

NORRIN 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NORRIN shRNA Plasmid (m): sc-61218-SH and NORRIN shRNA (m) Lentiviral Particles: sc-61218-V as alternate gene silencing products.

For independent verification of NORRIN (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-61218A, sc-61218B and sc-61218C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NORRIN siRNA (m) is recommended for the inhibition of NORRIN 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 µM in 66 µl. 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

NORRIN (B-8): sc-377276 is recommended as a control antibody for monitoring of NORRIN 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 NORRIN gene expression knockdown using RT-PCR Primer: NORRIN (m)-PR: sc-61218-PR (20 µl). 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 for detailed protocols and support products.