SANTA CRUZ BIOTECHNOLOGY, INC.

Nir3 siRNA (m): sc-75927

BACKGROUND

The Nirs (Nir1, Nir2, and Nir3), human homologues of *Drosophila* retinal degeneration B (rdgB), have been considered candidate genes for human inherited retinal degeneration diseases. The three Nir proteins are highly expressed in the developing retina, each exhibiting a distinct distribution profile. Nir3 (phosphatidylinositol transfer protein, membrane-associated 2), also known as membrane-associated phosphatidylinositol transfer protein 2, PYK2 N-terminal domain-interacting receptor 3, PITPNM2, RDGB2, RDGBA2 or KIAA1457, is a 1,349 amino acid protein that catalyzes the transfer of phosphatidylinositol and phosphatidylcholine between membranes. Nir3 is highly expressed in thymus, heart, ovary, testis and brain, and is expressed at lower levels in prostate, pancreas, small intestine, skeletal muscle, liver, placenta and colon. Three Nir3 isoforms exist as a result of alternative splicing, and Nir3 contains one DDHD domain. The gene encoding Nir3 maps to human chromosome 12q24.31.

REFERENCES

1. Lev, S., Hernandez, J., Martinez, R., Chen, A., Plowman, G. and Schlessinger, J. 1999. Identification of a novel family of targets of PYK2 related to *Drosophila* retinal degeneration B (rdgB) protein. Mol. Cell. Biol. 19: 2278-2288.
2. Nagase, T., Kikuno, R., Ishikawa, K., Hirosawa, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 143-150.
3. Ocaka, L., Spalluto, C., Wilson, D.I., Hunt, D.M. and Halford, S. 2005. Chromosomal localization, genomic organization and evolution of the genes encoding human phosphatidylinositol transfer protein membrane-associated (PITPNM) 1, 2 and 3. Cytogenet. Genome Res. 108: 293-302.
4. Amarilio, R., Ramachandran, S., Sabanay, H. and Lev, S. 2005. Differential regulation of endoplasmic reticulum structure through VAP-Nir protein interaction. J. Biol. Chem. 280: 5934-5944.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608920. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Pitpnm2 (mouse) mapping to 5 F.

PRODUCT

Nir3 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 Nir3 shRNA Plasmid (m): sc-75927-SH and Nir3 shRNA (m) Lentiviral Particles: sc-75927-V as alternate gene silencing products.

For independent verification of Nir3 (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-75927A, sc-75927B and sc-75927C.

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

Nir3 siRNA (m) is recommended for the inhibition of Nir3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Nir3 gene expression knockdown using RT-PCR Primer: Nir3 (m)-PR: sc-75927-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.