SANTA CRUZ BIOTECHNOLOGY, INC.

NARFL siRNA (m): sc-149831

BACKGROUND

Prenylation and methylation are two forms of protein modification, both of which are important for a variety of functions, including membrane attachment, protein-protein interactions and signaling events. NARFL (nuclear prelamin A recognition factor-like), also known as cytosolic Fe-S cluster assembly factor NARFL, HPRN, PRN (protein related to Narf), LET1L or IOP1 (iron-only hydrogenase-like protein 1), is a 476 amino acid protein belonging to the NARF family. Widely expressed, NARFL is required for extramitochondrial sulfur and iron protein maturation and may indirectly negatively regulate HIF-1α expression. Existing as three alternatively spliced isoforms, NARFL is encoded by a gene that maps to human chromosome 16p13.3 and murine chromosome 17 A3.3.

REFERENCES

1. Daniels, R.J., Peden, J.F., Lloyd, C., Horsley, S.W., Clark, K., Tufarelli, C., Kearney, L., Buckle, V.J., Doggett, N.A., Flint, J. and Higgs, D.R. 2001. Sequence, structure and pathology of the fully annotated terminal 2 Mb of the short arm of human chromosome 16. Hum. Mol. Genet. 10: 339-352.
2. Huang, J., Song, D., Flores, A., Zhao, Q., Mooney, S.M., Shaw, L.M. and Lee, F.S. 2007. IOP1, a novel hydrogenase-like protein that modulates hypoxia-inducible factor-1α activity. Biochem. J. 401: 341-352.
3. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611118. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Song, D. and Lee, F.S. 2008. A role for IOP1 in mammalian cytosolic iron-sulfur protein biogenesis. J. Biol. Chem. 283: 9231-9238.
5. Song, D., Tu, Z. and Lee, F.S. 2009. Human ISCA1 interacts with IOP1/NARFL and functions in both cytosolic and mitochondrial iron-sulfur protein biogenesis. J. Biol. Chem. 284: 35297-35307.

CHROMOSOMAL LOCATION

Genetic locus: Narfl (mouse) mapping to 17 A3.3.

PRODUCT

NARFL 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 NARFL shRNA Plasmid (m): sc-149831-SH and NARFL shRNA (m) Lentiviral Particles: sc-149831-V as alternate gene silencing products.

For independent verification of NARFL (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-149831A, sc-149831B and sc-149831C.

PROTOCOLS

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

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

NARFL siRNA (m) is recommended for the inhibition of NARFL 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

NARFL (E-7): sc-514078 is recommended as a control antibody for monitoring of NARFL 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 NARFL gene expression knockdown using RT-PCR Primer: NARFL (m)-PR: sc-149831-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.