SANTA CRUZ BIOTECHNOLOGY, INC.

Neuron navigator 1 siRNA (m): sc-149934

BACKGROUND

Neuron navigator 1, also known as Unc-53 homolog 1, Steerin-1 and POMFIL3 (pore membrane and/or filament-interacting-like protein 3), is a 1,877 amino acid cytoplasmic protein that is involved in neuronal migration. Neuron navigtor 1 is widely expressed at low levels, though highest expression is found in both adult and fetal nervous tissue. Through interaction with tubulin, Neuron navigator 1 associates with a subset of mirotubule plus ends present in the growth cone. Overexpression of Neuron navigator 1 leads to microtubule bundling, whereas a reduction of its levels causes loss of directionality in the migration of pontine cell leading processes. There are seven isoforms of Neuron navigator 1 that are produced as a result of alternative splicing events.

REFERENCES

1. Hirosawa, M., et al. 1999. Characterization of cDNA clones selected by the GeneMark analysis from size-fractionated cDNA libraries from human brain. DNA Res. 6: 329-336.
2. Coy, J.F., et al. 2002. Pore membrane and/or filament interacting like protein 1 (POMFIL1) is predominantly expressed in the nervous system and encodes different protein isoforms. Gene 290: 73-94.
3. Maes, T., et al. 2002. Neuron navigator: a human gene family with homology to Unc-53, a cell guidance gene from *Caenorhabditis elegans.* Genomics 80: 21-30.
4. Peeters, P.J., et al. 2004. Sensory deficits in mice hypomorphic for a mammalian homologue of Unc-53. Brain Res. Dev. Brain Res. 150: 89-101.
5. Martínez-López, M.J., et al. 2005. Mouse neuron navigator 1, a novel microtubule-associated protein involved in neuronal migration. Mol. Cell. Neurosci. 28: 599-612.
6. Muley, P.D., et al. 2008. The atRA-responsive gene neuron navigator 2 functions in neurite outgrowth and axonal elongation. Dev. Neurobiol. 68: 1441-1453.
7. McNeill, E.M., et al. 2010. Nav2 is necessary for cranial nerve development and blood pressure regulation. Neural Dev. 5: 6.

CHROMOSOMAL LOCATION

Genetic locus: Nav1 (mouse) mapping to 1 E4.

PRODUCT

Neuron navigator 1 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 Neuron navigator 1 shRNA Plasmid (m): sc-149934-SH and Neuron navigator 1 shRNA (m) Lentiviral Particles: sc-149934-V as alternate gene silencing products.

For independent verification of Neuron navigator 1 (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-149934A, sc-149934B and sc-149934C.

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

Neuron navigator 1 siRNA (m) is recommended for the inhibition of Neuron navigator 1 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

Neuron navigator 1 (G-12): sc-398641 is recommended as a control antibody for monitoring of Neuron navigator 1 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 Neuron navigator 1 gene expression knockdown using RT-PCR Primer: Neuron navigator 1 (m)-PR: sc-149934-PR (20 µl, 440 bp). 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.