

Neurexophilin-3 siRNA (h): sc-62679

BACKGROUND

Neurexophilin-1 (also known as NPH1 or NXPH1), Neurexophilin-2 (also known as NPH2 or NXPH2) and Neurexophilin-3 (also known as NPH3 or NXPH3) are members of the Neurexophilin family (Neurexophilin-1-4) of neuropeptide-like glycoproteins that are proteolytically processed after synthesis. Neurexophilin-1-3 are secreted proteins that are thought to function as signaling molecules which specifically bind to target proteins, such as neuexin α (a protein that promotes adhesion between dendrites and axons), and are essential for proper neurotransmitter release. While Neurexophilin-1 is located primarily in spleen tissue, Neurexophilin-2 is expressed primarily in kidney and both Neurexophilin-2 and Neurexophilin-3 are highly expressed in brain. Defects in the gene encoding Neurexophilin-1 may be associated with schizophrenia, a mental disorder characterized by an abnormal perception of reality.

REFERENCES

- Petrenko, A.G., et al. 1996. Structure and evolution of neurexophilin. *J. Neurosci.* 16: 4360-4369.
- Missler, M., et al. 1998. Neurexophilin binding to α -neuexins. A single LNS domain functions as an independently folding ligand-binding unit. *J. Biol. Chem.* 273: 34716-34723.
- Missler, M. and Südhof, T.C. 1998. Neurexophilins form a conserved family of neuropeptide-like glycoproteins. *J. Neurosci.* 18: 3630-3638.
- Clariss, H.J., et al. 2002. Expression of neuexin ligands, the neuroligins and the neurexophilins, in the developing and adult rodent olfactory bulb. *Int. J. Dev. Biol.* 46: 649-652.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604639. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Nussbaum, J., et al. 2008. Significant association of the neuexin-1 gene (NRXN1) with nicotine dependence in European- and African-American smokers. *Hum. Mol. Genet.* 17: 1569-1577.
- Kang, Y., et al. 2008. Induction of GABAergic postsynaptic differentiation by α -neuexins. *J. Biol. Chem.* 283: 2323-2334.

CHROMOSOMAL LOCATION

Genetic locus: NXPH3 (human) mapping to 17q21.33.

PRODUCT

Neurexophilin-3 siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Neurexophilin-3 shRNA Plasmid (h): sc-62679-SH and Neurexophilin-3 shRNA (h) Lentiviral Particles: sc-62679-V as alternate gene silencing products.

For independent verification of Neurexophilin-3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62679A, sc-62679B and sc-62679C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Neurexophilin-3 siRNA (h) is recommended for the inhibition of Neurexophilin-3 expression in human 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

Neurexophilin-3 (B-11): sc-393156 is recommended as a control antibody for monitoring of Neurexophilin-3 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Neurexophilin-3 gene expression knockdown using RT-PCR Primer: Neurexophilin-3 (h)-PR: sc-62679-PR (20 μ l). 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.