SANTA CRUZ BIOTECHNOLOGY, INC.

Neurexophilin-3 siRNA (m): sc-62680

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 neurexin Iα (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

1. Petrenko, A.G., et al. 1996. Structure and evolution of neurexophilin. J. Neurosci. 16: 4360-4369.
2. Missler, M., et al. 1998. Neurexophilin binding to α-neurexins. A single LNS domain functions as an independently folding ligand-binding unit. J. Biol. Chem. 273: 34716-34723.
3. Missler, M. and Südhof, T.C. 1998. Neurexophilins form a conserved family of neuropeptide-like glycoproteins. J. Neurosci. 18: 3630-3638.
4. Clarris, H.J., et al. 2002. Expression of neurexin ligands, the neuroligins and the neurexophilins, in the developing and adult rodent olfactory bulb. Int. J. Dev. Biol. 46: 649-652.
5. 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/
6. Nussbaum, J., et al. 2008. Significant association of the neurexin-1 gene (NRXN1) with nicotine dependence in European- and African-American smokers. Hum. Mol. Genet. 17: 1569-1577.
7. Kang, Y., et al. 2008. Induction of GABAergic postsynaptic differentiation by α-neurexins. J. Biol. Chem. 283: 2323-2334.

CHROMOSOMAL LOCATION

Genetic locus: Nxph3 (mouse) mapping to 11 D.

PRODUCT

Neurexophilin-3 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 Neurexophilin-3 shRNA Plasmid (m): sc-62680-SH and Neurexophilin-3 shRNA (m) Lentiviral Particles: sc-62680-V as alternate gene silencing products.

For independent verification of Neurexophilin-3 (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-62680A, sc-62680B and sc-62680C.

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

Neurexophilin-3 siRNA (m) is recommended for the inhibition of Neurexophilin-3 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

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-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 Neurexophilin-3 gene expression knockdown using RT-PCR Primer: Neurexophilin-3 (m)-PR: sc-62680-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.