

NETO2 siRNA (h): sc-75903

BACKGROUND

NETO2 (neuropilin (NRP) and tolloid (TLL)-like 2), also known as BTCL2 (brain-specific transmembrane protein containing 2 CUB and one LDL-receptor class A domains protein 2), is a 525 amino acid single-pass type I membrane protein that contains 2 CUB domains and one LDL-receptor class A domain. Expressed as multiple alternatively spliced isoforms, NETO2 is thought to play a role in the development and maintenance of neuronal circuitry, possibly playing a role in proper brain function. The gene encoding NETO2 maps to human chromosome 16, which is associated with a variety of genetic disorders, encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Gilbert, F. 1999. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 16. Genet. Test.* 3: 243-254.
2. Stöhr, H., et al. 2002. A novel gene encoding a putative transmembrane protein with two extracellular CUB domains and a low-density lipoprotein class A module: isolation of alternatively spliced isoforms in retina and brain. *Gene* 286: 223-231.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607974. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Demir, E., et al. 2005. Giant axonal neuropathy: clinical and genetic study in six cases. *J. Neurol. Neurosurg. Psychiatry* 76: 825-832.
5. Rakha, E.A., et al. 2006. Chromosome 16 tumor-suppressor genes in breast cancer. *Genes Chromosomes Cancer* 45: 527-535.
6. Zhang, W., et al. 2009. A transmembrane accessory subunit that modulates kainate-type glutamate receptors. *Neuron* 61: 385-396.

CHROMOSOMAL LOCATION

Genetic locus: NETO2 (human) mapping to 16q12.1.

PRODUCT

NETO2 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 NETO2 shRNA Plasmid (h): sc-75903-SH and NETO2 shRNA (h) Lentiviral Particles: sc-75903-V as alternate gene silencing products.

For independent verification of NETO2 (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-75903A, sc-75903B and sc-75903C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

NETO2 siRNA (h) is recommended for the inhibition of NETO2 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

NETO2 (3E3): sc-517104 is recommended as a control antibody for monitoring of NETO2 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 NETO2 gene expression knockdown using RT-PCR Primer: NETO2 (h)-PR: sc-75903-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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