SANTA CRUZ BIOTECHNOLOGY, INC.

NETO1 siRNA (h): sc-75901

BACKGROUND

NETO1 (neuropilin (NRP) and tolloid (TLL)-like 1), also known as BCTL1, is a 533 amino acid protein that contains one LDL-receptor class A domain and two CUB domains and is either membrane-bound or secreted. Expressed as three alternatively spliced isoforms, the first two of which are retina-specific and the third of which is found in both retina and brain tissue, NETO1 is thought to be involved in the development and maintenance of neuronal circuitry, possibly playing a role in proper brain function. Human NETO1 shares 95% amino acid identity with its mouse counterpart, suggesting a conserved role between species. The gene encoding NETO1 maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

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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. Michishita, M., et al. 2003. A novel gene, Btcl1, encoding CUB and LDLa domains is expressed in restricted areas of mouse brain. Biochem. Biophys. Res. Commun. 306: 680-686.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607973. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Chow, R.L., et al. 2004. Control of late off-center cone bipolar cell differentiation and visual signaling by the homeobox gene Vsx1. Proc. Natl. Acad. Sci. USA 101: 1754-1759.
6. Ng, D., et al. 2009. Neto1 is a novel CUB-domain NMDA receptor-interacting protein required for synaptic plasticity and learning. PLoS Biol. 7: e41.

CHROMOSOMAL LOCATION

Genetic locus: NETO1 (human) mapping to 18q22.3.

PRODUCT

NETO1 siRNA (h) is a pool of 2 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 NETO1 shRNA Plasmid (h): sc-75901-SH and NETO1 shRNA (h) Lentiviral Particles: sc-75901-V as alternate gene silencing products.

For independent verification of NETO1 (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-75901A and sc-75901B.

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

NETO1 siRNA (h) is recommended for the inhibition of NETO1 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NETO1 gene expression knockdown using RT-PCR Primer: NETO1 (h)-PR: sc-75901-PR (20 µl, 577 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.