



Artn siRNA (m): sc-41967

BACKGROUND

Neurotrophic factors are soluble proteins that are involved in the development and maintenance of the peripheral and central nervous systems. Glial cell line-derived neurotrophic factor (GDNF), neurturin (NTN) and persephin (PSP) are members of a family of neurotrophic factors that is distantly related to the TGF β superfamily. PSP, like GDNF and NTN, promotes survival and inhibits degeneration of dopaminergic neurons. Unlike GDNF and NTN, however, PSP does not appear to support peripheral neurons. An additional member of the GDNF ligand family, artemin (Artn), interacts preferentially with the GFR α -3-Ret receptor complex, but it can also interact with the GFR α -1-Ret receptor complex, which is the preferred receptor of GDNF. Artn is also capable of supporting peripheral and central neurons.

REFERENCES

1. Buj-Bello, A., et al. 1995. GDNF is an age-specific survival factor for sensory and autonomic neurons. *Neuron* 15: 821-828.
2. Ebendal, T., et al. 1995. Glial cell line-derived neurotrophic factor stimulates fiber formation and survival in cultured neurons from peripheral autonomic ganglia. *J. Neurosci. Res.* 40: 276-284.
3. Shen, L., et al. 1997. Recent progress in studies of neurotrophic factors and their clinical implications. *J. Mol. Med.* 75: 637-644.
4. Pachnis, V., et al. 1998. Role of the RET signal transduction pathway in development of the mammalian enteric nervous system. *Am. J. Physiol.* 275: 183-186.
5. Milbrandt, J., et al. 1998. Persephin, a novel neurotrophic factor related to GDNF and neurturin. *Neuron* 20: 245-253.
6. Baloh, R.H., et al. 1998. Artemin, a novel member of the GDNF ligand family, supports peripheral and central neurons and signals through the GFR α 3-RET receptor complex. *Neuron* 21: 1291-1302.

CHROMOSOMAL LOCATION

Genetic locus: Artn (mouse) mapping to 4 D2.1.

PRODUCT

Artn 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 Artn shRNA Plasmid (h): sc-41966-SH and Artn shRNA (h) Lentiviral Particles: sc-41966-V as alternate gene silencing products.

For independent verification of Artn (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-41966A, sc-41966B and sc-41966C.

PROTOCOLS

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

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

Artn siRNA (m) is recommended for the inhibition of Artn 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 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

Artn (BQ-74X): sc-73715 is recommended as a control antibody for monitoring of Artn 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Artn gene expression knockdown using RT-PCR Primer: Artn (m)-PR: sc-41967-PR (20 μ l, 521 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.