

Synaptogyrin-3 siRNA (r): sc-270607

BACKGROUND

The synaptogyrin family of proteins are integral membrane proteins containing four transmembrane regions. Synaptogyrins are tyrosine-phosphorylated proteins with two neuronal (Synaptogyrins 1 and 3) and one ubiquitous (Synaptogyrin-2) isoform. Synaptophysin and synaptogyrin represent the major constituents of synaptic vesicles. Synaptogyrin-1 is associated with pre-synaptic vesicles in neuronal cells. Synaptogyrin-2, also known as Cellugyrin has a tyrosine phosphorylated C-terminal cytoplasmic tail, and is involved in the regulation of membrane traffic in non-neuronal cells. Synaptogyrin-3 is expressed mainly in brain and placenta. The SYNGR4 gene encodes for the 234 amino acid protein Synaptogyrin-4.

REFERENCES

1. Belfort, G.M., et al. 2003. Cellugyrin and Synaptogyrin facilitate targeting of synaptophysin to a ubiquitous synaptic vesicle-sized compartment in PC12 cells. *J. Biol. Chem.* 278: 47971-47978.
2. Belizaire, R., et al. 2004. Characterization of Synaptogyrin-3 as a new synaptic vesicle protein. *J. Comp. Neurol.* 470: 266-281.
3. Hitchcock, I.S., et al. 2004. Essential components for a glutamatergic synapse between Merkel cell and nerve terminal in rats. *Neurosci. Lett.* 362: 196-199.
4. Masliah, E., et al. 2004. Patterns of gene dysregulation in the frontal cortex of patients with HIV encephalitis. *J. Neuroimmunol.* 157: 163-175.
5. Belfort, G.M., et al. 2005. Cellugyrin induces biogenesis of synaptic-like microvesicles in PC12 cells. *J. Biol. Chem.* 280: 7262-7272.
6. Witkovsky, P., et al. 2005. Rat retinal dopaminergic neurons: differential maturation of somatodendritic and axonal compartments. *J. Comp. Neurol.* 481: 352-362.

CHROMOSOMAL LOCATION

Genetic locus: Syng3 (rat) mapping to 10q12.

PRODUCT

Synaptogyrin-3 siRNA (r) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Synaptogyrin-3 shRNA Plasmid (r): sc-270607-SH and Synaptogyrin-3 shRNA (r) Lentiviral Particles: sc-270607-V as alternate gene silencing products.

For independent verification of Synaptogyrin-3 (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270607A and sc-270607B.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

Synaptogyrin-3 siRNA (r) is recommended for the inhibition of Synaptogyrin-3 expression in rat 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Synaptogyrin-3 gene expression knockdown using RT-PCR Primer: Synaptogyrin-3 (r)-PR: sc-270607-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.