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Synaptojanin 1 siRNA (m): sc-153973

BACKGROUND

The inositol polyphosphate 5-phosphatases selectively remove the phosphate from the 5-position of various phosphatidylinositols, which generate second messengers in response to extracellular signals. Synaptojanins are characterized by an N-terminal SAC1-like sequence, a central 5-phosphate domain and a unique C-terminal sequence and have been shown to use phosphatidylinositol 4,5-bisphosphate as a substrate. Synaptojanins exist as two isoforms, Synaptojanin 1 and 2, which differ in the C-terminal domain and each isoform has multiple variants produced by alternative splicing. Synaptojanin 1 is expressed as two major forms of 145 kDa, which is found in brain and 170 kDa, which is expressed in peripheral tissues. Eight splice variants of Synaptojanin 2 have been detected, including a brain specific isoform. Synaptojanins are thought to participate in the endocytosis of synaptic vesicles and the regulation of the Actin cytoskeleton.

REFERENCES

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- Khovtchev, M. and Sudhof, T.C. 1998. Developmentally regulated alternative splicing in a novel synaptojanin. *J. Biol. Chem.* 273: 2306-2311.
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CHROMOSOMAL LOCATION

Genetic locus: Synj1 (mouse) mapping to 16 C3.3.

PRODUCT

Synaptojanin 1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Synaptojanin 1 shRNA Plasmid (m): sc-153973-SH and Synaptojanin 1 shRNA (m) Lentiviral Particles: sc-153973-V as alternate gene silencing products.

For independent verification of Synaptojanin 1 (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-153973A, sc-153973B and sc-153973C.

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

Synaptojanin 1 siRNA (m) is recommended for the inhibition of synaptojanin 1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor synaptojanin 1 gene expression knockdown using RT-PCR Primer: Synaptojanin 1 (m)-PR: sc-153973-PR (20 μ l). 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.