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synphilin-1 siRNA (h): sc-43434



The Power to Question

BACKGROUND

Synphilin-1 (α synuclein interacting protein, SNCAIP) is a 919-amino acid protein that associates with α synuclein and promotes the formation of cytosolic inclusions in neuronal cells. The synuclein family members, including α -synuclein and β -synuclein, are predominantly expressed in the brain where they influence synaptic regulation and neuronal plasticity. Synphilin-1 contains modular protein domains, such as ankyrin-like repeats and a coiled-coil domain. While both α -synuclein and synphilin-1 are co-expressed in Lewy bodies of patients with Parkinson's disease (PD), only mutations in the gene for α -synuclein have been determined to confer pathogenicity.

REFERENCES

1. Ueda, K., et al. 1993. Molecular cloning of cDNA encoding an unrecognized component of amyloid in Alzheimer disease. Proc. Natl. Acad. Sci. USA 90: 11282-11286.
2. Jakes, R., et al. 1994. Identification of two distinct synucleins from human brain. FEBS Lett. 345: 27-32.
3. Engelender, S., et al. 1999. Synphilin-1 associates with α -synuclein and promotes the formation of cytosolic inclusions. Nat. Genet. 22: 110-114.
4. Wakabayashi, K., et al. 2000. Synphilin-1 is present in Lewy bodies in Parkinson's disease. Ann. Neurol. 47: 521-53.
5. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 603779. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Kawamata, H., et al. 2001. Interaction of α -synuclein and synphilin-1: effect of Parkinson's disease-associated mutations. J. Neurochem. 77: 929-934.
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CHROMOSOMAL LOCATION

Genetic locus: SNCAIP (human) mapping to 5q23.2.

PRODUCT

synphilin-1 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 synphilin-1 shRNA Plasmid (h): sc-43434-SH and synphilin-1 shRNA (h) Lentiviral Particles: sc-43434-V as alternate gene silencing products.

For independent verification of synphilin-1 (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-43434A, sc-43434B and sc-43434C.

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

synphilin-1 siRNA (h) is recommended for the inhibition of synphilin-1 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

synphilin-1 (F-9): sc-365741 is recommended as a control antibody for monitoring of synphilin-1 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 synphilin-1 gene expression knockdown using RT-PCR Primer: synphilin-1 (h)-PR: sc-43434-PR (20 μ l, 553 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.