

synphilin-1 siRNA (h): sc-43434

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.
7. Farrer, M., et al. 2001. Genetic analysis of synphilin-1 in familial parkinson's disease. *Neurobiol. Dis.* 8: 317-323.

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.