

LRCH3 siRNA (h): sc-78126

BACKGROUND

Members of the leucine-rich repeat family includes LRCH1, LRCH2, LRCH3 and LRCH4. All family members contain one calponin-homology domain and nine leucine-rich repeats. The best characterized leucine-rich repeat family member is LRCH4, which is suggested to be involved in ligand binding in the brain, with expression observed primarily in the hippocampus. As a cell adhesion molecule and signal receptor, LRCH4 may play an important role in maintenance of hippocampus-dependent memories, with defects in the gene possibly contributing to a loss of long-term memory. The gene encoding LRCH3 maps to human chromosome 3, which spans 200 million base pairs and encodes between 1,100 and 1,500 genes. There are three isoforms of LRCH3 that are produced as a result of alternative splicing events.

REFERENCES

1. Hamano, S., et al. 2004. Identification of novel human neuronal leucine-rich repeat (hNLRR) family genes and inverse association of expression of Nbla10449/hNLRR-1 and Nbla10677/hNLRR-3 with the prognosis of primary neuroblastomas. *Int. J. Oncol.* 24: 1457-1466.
2. Haines, B.P., et al. 2005. The NLRR gene family and mouse development: Modified differential display PCR identifies NLRR-1 as a gene expressed in early somitic myoblasts. *Dev. Biol.* 281: 145-159.
3. Bando, T., et al. 2005. Neuronal leucine-rich repeat protein 4 functions in hippocampus-dependent long-lasting memory. *Mol. Cell. Biol.* 25: 4166-4175.
4. Spector, T.D., et al. 2006. Association between a variation in LRCH1 and knee osteoarthritis: a genome-wide single-nucleotide polymorphism association study using DNA pooling. *Arthritis Rheum.* 54: 524-532.
5. García-Calero, E., et al. 2006. Expression of Lrrn1 marks the prospective site of the zona limitans thalami in the early embryonic chicken diencephalon. *Gene Expr. Patterns* 6: 879-885.
6. Ikegawa, S. 2007. New gene associations in osteoarthritis: what do they provide, and where are we going? *Curr. Opin. Rheumatol.* 19: 429-434.
7. Snelling, S., et al. 2007. Genetic association analysis of LRCH1 as an osteoarthritis susceptibility locus. *Rheumatology* 46: 250-252.

CHROMOSOMAL LOCATION

Genetic locus: LRCH3 (human) mapping to 3q29.

PRODUCT

LRCH3 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 LRCH3 shRNA Plasmid (h): sc-78126-SH and LRCH3 shRNA (h) Lentiviral Particles: sc-78126-V as alternate gene silencing products.

For independent verification of LRCH3 (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-78126A, sc-78126B and sc-78126C.

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

LRCH3 siRNA (h) is recommended for the inhibition of LRCH3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LRCH3 gene expression knockdown using RT-PCR Primer: LRCH3 (h)-PR: sc-78126-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.

PROTOCOLS

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