

LRCH4 siRNA (m): sc-72377

BACKGROUND

Members of the leucine-rich repeat family include LRCH1, LRCH2, LRCH3 and LRCH4. All family members contain one calponin-homology domain and nine leucine-rich repeats. LRCH4 (leucine-rich repeats and calponin homology (CH) domain containing 4), also known as LRN, LRRN1, LRRN4 or SAP25, is a 683 amino acid protein that belongs to the leucine-rich repeat family. The carboxy-terminus of LRCH4 may act as a membrane anchor between cells, while the amino-terminus contains the leucine-rich domains is thought to be involved in ligand binding. The calponin homology (CH) domain is suggested to confer Actin binding to a variety of cytoskeletal and signaling molecules. The gene encoding LRCH4 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome.

REFERENCES

1. Taguchi, A., et al. 1996. Molecular cloning of novel leucine-rich repeat proteins and their expression in the developing mouse nervous system. *Brain Res. Mol. Brain Res.* 35: 31-40.
2. Bañuelos, S., et al. 1998. Structural comparisons of calponin homology domains: implications for Actin binding. *Structure* 6: 1419-1431.
3. Liang, H., et al. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. *Proc. Natl. Acad. Sci. USA* 95: 3781-3785.
4. Gimona, M., et al. 2002. Functional plasticity of CH domains. *FEBS Lett.* 513: 98-106.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: *Lrch4* (mouse) mapping to 5 G2.

PRODUCT

LRCH4 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 LRCH4 shRNA Plasmid (m): sc-72377-SH and LRCH4 shRNA (m) Lentiviral Particles: sc-72377-V as alternate gene silencing products.

For independent verification of LRCH4 (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-72377A, sc-72377B and sc-72377C.

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.

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

LRCH4 siRNA (m) is recommended for the inhibition of LRCH4 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.

GENE EXPRESSION MONITORING

LRCH4 (A-9): sc-377441 is recommended as a control antibody for monitoring of LRCH4 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 LRCH4 gene expression knockdown using RT-PCR Primer: LRCH4 (m)-PR: sc-72377-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.