

LRFN3 siRNA (m): sc-149035

BACKGROUND

LRFN3 (leucine-rich repeat and fibronectin type-III domain-containing protein 3), also known as SALM4 (synaptic adhesion-like molecule 4), is a 628 amino acid single-pass type I membrane protein that belongs to the LRFN family. Containing seven LRR (leucine-rich repeats), LRFN3 also contains one fibronectin type-III domain, one Ig-like (immunoglobulin-like) domain, one LRRCT domain and one LRRNT domain. As a cell adhesion molecule that mediates homophilic cell-cell adhesion in a Ca^{2+} -independent manner, LRFN3 promotes neurite outgrowth in hippocampal neurons. LRFN3 forms homomeric complexes across cell junctions (between adjacent cells), and can form heteromeric complexes with LRFN1, LRFN2, LRFN4 and LRFN5. The gene that encodes LRFN3 consists of more than 8,000 bases and maps to human chromosome 19q13.12.

REFERENCES

1. Trowsdale, J., Barten, R., Haude, A., Stewart, C.A., Beck, S. and Wilson, M.J. 2001. The genomic context of natural killer receptor extended gene families. *Immunol. Rev.* 181: 20-38.
2. Le Meur, N., Martin, C., Saugier-Verber, P., Joly, G., Lemoine, F., Moirrot, H., Rossi, A., Bachy, B., Cabot, A., Joly, P. and Frébourg, T. 2004. Complete germline deletion of the STK11 gene in a family with Peutz-Jeghers syndrome. *Eur. J. Hum. Genet.* 12: 415-418.
3. Morimura, N., Inoue, T., Katayama, K. and Aruga, J. 2006. Comparative analysis of structure, expression and PSD95-binding capacity of Lrfn, a novel family of neuronal transmembrane proteins. *Gene* 380: 72-83.
4. Wang, C.Y., Chang, K., Petralia, R.S., Wang, Y.X., Seabold, G.K. and Wenthold, R.J. 2006. A novel family of adhesion-like molecules that interacts with the NMDA receptor. *J. Neurosci.* 26: 2174-2183.
5. Barrow, A.D. and Trowsdale, J. 2008. The extended human leukocyte receptor complex: diverse ways of modulating immune responses. *Immunol. Rev.* 224: 98-123.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612809. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Konakahara, S., Saitou, M., Hori, S., Nakane, T., Murai, K., Itoh, R., Shinsaka, A., Kohroki, J., Kawakami, T., Kajikawa, M. and Masuho, Y. 2011. A neuronal transmembrane protein LRFN4 induces monocyte/macrophage migration via actin cytoskeleton reorganization. *FEBS Lett.* 585: 2377-2384.
8. Nam, J., Mah, W. and Kim, E. 2011. The SALM/Lrfn family of leucine-rich repeat-containing cell adhesion molecules. *Semin. Cell Dev. Biol.* 22: 492-498.

CHROMOSOMAL LOCATION

Genetic locus: Lrfn3 (mouse) mapping to 7 B1.

PROTOCOLS

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

PRODUCT

LRFN3 siRNA (m) is a pool of 2 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LRFN3 shRNA Plasmid (m): sc-149035-SH and LRFN3 shRNA (m) Lentiviral Particles: sc-149035-V as alternate gene silencing products.

For independent verification of LRFN3 (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-149035A and sc-149035B.

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 μl of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μl of RNase-free water makes a 10 μM solution in a 10 μM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LRFN3 siRNA (m) is recommended for the inhibition of LRFN3 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 μM in 66 μl . 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 LRFN3 gene expression knockdown using RT-PCR Primer: LRFN3 (m)-PR: sc-149035-PR (20 μl). Annealing temperature for the primers should be $55-60^{\circ}\text{C}$ and the extension temperature should be $68-72^{\circ}\text{C}$.

RESEARCH USE

For research use only, not for use in diagnostic procedures.