SANTA CRUZ BIOTECHNOLOGY, INC.

LRFN5 siRNA (h): sc-92232

BACKGROUND

LRFN5 (leucine-rich repeat and fibronectin type-III domain-containing protein 5), also known as C14orf146 or SALM5, is a 719 amino acid single-pass type I membrane protein that belongs to the LRFN family. Containing one fibronectin type-III domain, one Ig-like (immunoglobulin-like) domain, seven LRR (leucine-rich) repeats, one LRRCT domain, and one LRRNT domain, LRFN5 lacks a cytoplasmic PDZ-binding motif present in other LRFN family members. LRFN5 forms heteromeric complexes with LRFN1, LRFN2, LRFN3 and LFRN4, and has the ability to form homomeric complexes across cell junctions of adjacent cells. LRFN5 may promote neurite outgrowth in hippocampal neurons and may also function as a cell adhesion molecule, mediating homophilic cell to cell adhesion. The gene encoding LRFN5 maps to human chromosome 14q21.1.

REFERENCES

1. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
2. Morimura, N., et al. 2006. Comparative analysis of structure, expression and PSD95-binding capacity of Lrfn, a novel family of neuronal transmembrane proteins. Gene 380: 72-83.
3. Ko, J., et al. 2006. SALM synaptic cell adhesion-like molecules regulate the differentiation of excitatory synapses. Neuron 50: 233-245.
4. Seabold, G.K., et al. 2008. The SALM family of adhesion-like molecules forms heteromeric and homomeric complexes. J. Biol. Chem. 283: 8395-8405.
5. Wang, P.Y., et al. 2008. Synaptic adhesion-like molecules (SALMs) promote neurite outgrowth. Mol. Cell. Neurosci. 39: 83-94.
6. de Bruijn, D.R., et al. 2010. Severe progressive autism associated with two *de novo* changes: a 2.6-mb 2q31.1 deletion and a balanced t(14;21)(q21.1;p11.2) translocation with long-range epigenetic silencing of lrfn5 expression. Mol. Syndromol. 1: 46-57.
7. Mah, W., et al. 2010. Selected SALM (synaptic adhesion-like molecule) family proteins regulate synapse formation. J. Neurosci. 30: 5559-5568.

CHROMOSOMAL LOCATION

Genetic locus: LRFN5 (human) mapping to 14q21.1.

PRODUCT

LRFN5 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LRFN5 shRNA Plasmid (h): sc-92232-SH and LRFN5 shRNA (h) Lentiviral Particles: sc-92232-V as alternate gene silencing products.

For independent verification of LRFN5 (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-92232A, sc-92232B and sc-92232C.

RESEARCH USE

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

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

LRFN5 siRNA (h) is recommended for the inhibition of LRFN5 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 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 LRFN5 gene expression knockdown using RT-PCR Primer: LRFN5 (h)-PR: sc-92232-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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