SANTA CRUZ BIOTECHNOLOGY, INC.

LRFN2 siRNA (h): sc-95053

BACKGROUND

LRFN2 (leucine rich repeat and fibronectin type III domain containing 2), also known as synaptic adhesion-like molecule 1, SALM1 or fibronectin type III, immunoglobulin and leucine rich repeat domains 2, is a 789 amino acid single-pass type I membrane protein belonging to the LRFN family. Encoded by a gene that maps to human chromosome 6p21.2, LRFN2 is moderately expressed in brain, spleen and testis. LRFN2 contains one fibronectin type-III domain, one Ig-like (immunoglobulin-like) domain and six LRR (leucine-rich repeats). LRFN2 promotes neurite outgrowth in hippocampal neurons, enhances cell surface expression of two NMDA receptor subunits, NMDAζ1 and NMDAε1, and may play a role in redistributing PSD-95 to cell periphery. LRFN2 forms heteromeric complexes with LRFN1, LRFN3, LRFN4 and LRFN5, and is capable of forming homomeric complexes, but not across cell junctions.

REFERENCES

1. 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 38: 72-83.
2. 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.
3. Castellanos, A., Lang, G., Frampton, J. and Weston, K. 2007. Regulation of erythropoiesis by the neuronal transmembrane protein Lrfn2. Exp. Hematol. 35: 724-734.
4. Ko, J. and Kim, E. 2007. Leucine-rich repeat proteins of synapses. J. Neurosci. Res. 85: 2824-2832.
5. Seabold, G.K., Wang, P.Y., Chang, K., Wang, C.Y., Wang, Y.X., Petralia, R.S. and Wenthold, R.J. 2008. The SALM family of adhesion-like molecules forms heteromeric and homomeric complexes. J. Biol. Chem. 283: 8395-8405.
6. Wang, P.Y., Seabold, G.K. and Wenthold, R.J. 2008. Synaptic adhesion-like molecules (SALMs) promote neurite outgrowth. Mol. Cell. Neurosci. 39: 83-94.
7. Mah, W., Ko, J., Nam, J., Han, K., Chung, W.S. and Kim, E. 2010. Selected SALM (synaptic adhesion-like molecule) family proteins regulate synapse formation. J. Neurosci. 30: 5559-5568.

CHROMOSOMAL LOCATION

Genetic locus: LRFN2 (human) mapping to 6p21.2.

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.

PRODUCT

LRFN2 siRNA (h) 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 LRFN2 shRNA Plasmid (h): sc-95053-SH and LRFN2 shRNA (h) Lentiviral Particles: sc-95053-V as alternate gene silencing products.

For independent verification of LRFN2 (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-95053A and sc-95053B.

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

LRFN2 siRNA (h) is recommended for the inhibition of LRFN2 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 LRFN2 gene expression knockdown using RT-PCR Primer: LRFN2 (h)-PR: sc-95053-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.