

# LRFN4 siRNA (h): sc-96803

## BACKGROUND

LRFN4 (leucine rich repeat and fibronectin type III domain containing 4), also known as SALM3 or FIGLER6, is a 635 amino acid single-pass type I membrane protein that belongs to the LRFN family. Containing a fibronectin type-III domain, an Ig-like (immunoglobulin-like) domain, a LRRCT domain, a LRRNT domain and seven LRR (leucine-rich repeats), LRFN4 is thought to promote neurite outgrowth in hippocampal neurons and may play a role in redistributing PSD-95 to the cell periphery. LRFN4 forms heteromeric complexes with LRFN1, LRFN2, LRFN3 and LRFN5, but does not have the ability to form homomeric complexes across cell junctions of adjacent cells like some other LRFN family members. The PDZ-binding motif of LRFN4 is required for neurite outgrowth promotion and for SAP 97-, NE-dlg- and PSD-95-binding. LRFN4 is encoded by a gene located on human chromosome 11q13.1 and mouse chromosome 19 A.

## REFERENCES

1. 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.
2. Wang, C.Y., et al. 2006. A novel family of adhesion-like molecules that interacts with the NMDA receptor. *J. Neurosci.* 26: 2174-2183.
3. Ko, J., et al. 2006. SALM synaptic cell adhesion-like molecules regulate the differentiation of excitatory synapses. *Neuron* 50: 233-245.
4. Castellanos, A., et al. 2007. Regulation of erythropoiesis by the neuronal transmembrane protein Lrfn2. *Exp. Hematol.* 35: 724-734.
5. Ko, J. and Kim, E. 2007. Leucine-rich repeat proteins of synapses. *J. Neurosci. Res.* 85: 2824-2832.
6. Seabold, G.K., et al. 2008. The SALM family of adhesion-like molecules forms heteromeric and homomeric complexes. *J. Biol. Chem.* 283: 8395-8405.
7. Wang, P.Y., et al. 2008. Synaptic adhesion-like molecules (SALMs) promote neurite outgrowth. *Mol. Cell. Neurosci.* 39: 83-94.

## CHROMOSOMAL LOCATION

Genetic locus: LRFN4 (human) mapping to 11q13.2.

## PRODUCT

LRFN4 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LRFN4 shRNA Plasmid (h): sc-96803-SH and LRFN4 shRNA (h) Lentiviral Particles: sc-96803-V as alternate gene silencing products.

For independent verification of LRFN4 (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-96803A and sc-96803B.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

LRFN4 siRNA (h) is recommended for the inhibition of LRFN4 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  $\mu$ M in 66  $\mu$ 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

LRFN4 (F-3): sc-393425 is recommended as a control antibody for monitoring of LRFN4 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 LRFN4 gene expression knockdown using RT-PCR Primer: LRFN4 (h)-PR: sc-96803-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.