

LRRC8C siRNA (m): sc-149107

BACKGROUND

The leucine-rich repeat (LRR) is a 20-30 amino acid motif that forms a hydrophobic α/β horseshoe fold, allowing it to accommodate several leucine residues within a tightly packed core. All LRRs contain a variable segment and a highly conserved segment, the latter of which accounts for 11 or 12 residues of the entire LRR motif. The primary function of these motifs is to provide a versatile structural framework to mediate the formation of protein-protein interactions. LRRs are present in a variety of proteins with diverse structure and function, including innate immunity and nervous system development. Several human diseases are associated with mutations in genes encoding LRR-containing proteins. LRRC8C (leucine-rich repeat-containing protein 8C), also known as FAD158 (factor for adipocyte differentiation 158) or AD158, is a 803 amino acid protein that contains 14 LRRs. Localized to the endoplasmic reticulum membrane, LRRC8C may play a role in adipogenesis. LRRC8C is expressed at high levels in skeletal muscle, with lower levels found in lung, heart and peripheral blood leukocytes.

REFERENCES

1. Kobe, B. and Deisenhofer, J. 1994. The leucine-rich repeat: a versatile binding motif. *Trends Biochem. Sci.* 19: 415-421.
2. Kobe, B. and Deisenhofer, J. 1995. Proteins with leucine-rich repeats. *Curr. Opin. Struct. Biol.* 5: 409-416.
3. Kajava, A.V. 1998. Structural diversity of leucine-rich repeat proteins. *J. Mol. Biol.* 277: 519-527.
4. Kobe, B. and Kajava, A.V. 2001. The leucine-rich repeat as a protein recognition motif. *Curr. Opin. Struct. Biol.* 11: 725-732.
5. Hughes, J.M., Brink, A., Witmer, A.N., Hanraads-de Riemer, M., Klaassen, I. and Schlingemann, R.O. 2004. Vascular leucocyte adhesion molecules unaltered in the human retina in diabetes. *Br. J. Ophthalmol.* 88: 566-572.
6. Kubota, K., Kim, J.Y., Sawada, A., Tokimasa, S., Fujisaki, H., Matsuda-Hashii, Y., Ozono, K. and Hara, J. 2004. LRRC8 involved in B cell development belongs to a novel family of leucine-rich repeat proteins. *FEBS Lett.* 564: 147-152.
7. Tominaga, K., Kondo, C., Kagata, T., Hishida, T., Nishizuka, M. and Imagawa, M. 2004. The novel gene fad158, having a transmembrane domain and leucine-rich repeat, stimulates adipocyte differentiation. *J. Biol. Chem.* 279: 34840-34848.
8. Matsushima, N., Tachi, N., Kuroki, Y., Enkhbayar, P., Osaki, M., Kamiya, M. and Kretsinger, R.H. 2005. Structural analysis of leucine-rich-repeat variants in proteins associated with human diseases. *Cell. Mol. Life Sci.* 62: 2771-2791.

CHROMOSOMAL LOCATION

Genetic locus: *Lrrc8c* (mouse) mapping to 5 E5.

PROTOCOLS

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

PRODUCT

LRRC8C 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 LRRC8C shRNA Plasmid (m): sc-149107-SH and LRRC8C shRNA (m) Lentiviral Particles: sc-149107-V as alternate gene silencing products.

For independent verification of LRRC8C (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-149107A, sc-149107B and sc-149107C.

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

LRRC8C siRNA (m) is recommended for the inhibition of LRRC8C 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LRRC8C gene expression knockdown using RT-PCR Primer: LRRC8C (m)-PR: sc-149107-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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