

LRRCC1 siRNA (m): sc-149111

BACKGROUND

Leucine-rich repeats (LRRs) are 20-30 amino acid motifs that mediate protein-protein interactions. The primary function of these motifs is to provide a versatile structural framework for the formation of these 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 the genes encoding LRR-containing proteins. LRRCC1 (leucine rich repeat and coiled-coil domain containing 1), also known as SAP2 or Clerc, is a 1,032 amino acid centrosome protein that belongs to the LRRCC1 family. LRRCC1 associates with the centrosome throughout the cell cycle and accumulates during the mitotic phase. LRRCC1 contains five LRR repeats and exists as three isoforms due to alternative splicing events.

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. Kobe, B. and Kajava, A.V. 2001. The leucine-rich repeat as a protein recognition motif. *Curr. Opin. Struct. Biol.* 11: 725-732.
4. 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.
5. Chen, Y., Aulia, S., Li, L. and Tang, B.L. 2006. AMIGO and friends: an emerging family of brain-enriched, neuronal growth modulating, type I transmembrane proteins with leucine-rich repeats (LRR) and cell adhesion molecule motifs. *Brain Res Rev.* 51: 265-274.
6. Dolan, J., Walshe, K., Alsbury, S., Hokamp, K., O'Keeffe, S., Okafuji, T., Miller, S.F., Tear, G. and Mitchell, K.J. 2007. The extracellular leucine-rich repeat superfamily: a comparative survey and analysis of evolutionary relationships and expression patterns. *BMC Genomics* 8: 320.
7. Ko, J. and Kim, E. 2007. Leucine-rich repeat proteins of synapses. *J. Neurosci. Res.* 85: 2824-2832.
8. Muto, Y., Yoshioka, T., Kimura, M., Matsunami, M., Saya, H. and Okano, Y. 2008. An evolutionarily conserved leucine-rich repeat protein CLERC is a centrosomal protein required for spindle pole integrity. *Cell Cycle* 7: 2738-2748.
9. Bella, J., Hindle, K.L., McEwan, P.A. and Lovell, S.C. 2008. The leucine-rich repeat structure. *Cell. Mol. Life Sci.* 65: 2307-2333.

CHROMOSOMAL LOCATION

Genetic locus: *Lrrcc1* (mouse) mapping to 3 A1.

PROTOCOLS

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

PRODUCT

LRRCC1 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 LRRCC1 shRNA Plasmid (m): sc-149111-SH and LRRCC1 shRNA (m) Lentiviral Particles: sc-149111-V as alternate gene silencing products.

For independent verification of LRRCC1 (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-149111A, sc-149111B and sc-149111C.

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

LRRCC1 siRNA (m) is recommended for the inhibition of LRRCC1 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 LRRCC1 gene expression knockdown using RT-PCR Primer: LRRCC1 (m)-PR: sc-149111-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.