

# LDLRAD4 siRNA (m): sc-141838

## BACKGROUND

LDLRAD4 is a 306 amino acid single-pass membrane protein that contains one LDL-receptor class A domain and belongs to the PMEPA1 family. LDLRAD4 exists as five alternatively spliced isoforms that display selective expression and are encoded by a gene that maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

## REFERENCES

1. Yoshikawa, T., Sanders, A.R., Esterling, L.E., Overhauser, J., Garnes, J.A., Lennon, G., Grewal, R. and Detera-Wadleigh, S.D. 1997. Isolation of chromosome 18-specific brain transcripts as positional candidates for bipolar disorder. *Am. J. Med. Genet.* 74: 140-149.
2. Esterling, L.E., Cox Matise, T., Sanders, A.R., Yoshikawa, T., Overhauser, J., Gershon, E.S., Moskowitz, M.T. and Detera-Wadleigh, S.D. 1997. An integrated physical map of 18p11.2: a susceptibility region for bipolar disorder. *Mol. Psychiatry* 2: 501-504.
3. Yoshikawa, T., Sanders, A.R., Esterling, L.E. and Detera-Wadleigh, S.D. 1998. Multiple transcriptional variants and RNA editing in C18orf1, a novel gene with LDLRA and transmembrane domains on 18p11.2. *Genomics* 47: 246-257.
4. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606571. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Petek, E., Pertl, B., Tschernigg, M., Bauer, M., Mayr, J., Wagner, K. and Kroisel, P.M. 2003. Characterisation of a 19-year-old "long-term survivor" with Edwards syndrome. *Genet. Couns.* 14: 239-244.
6. Grosso, S., Pucci, L., Di Bartolo, R.M., Gobbi, G., Bartalini, G., Anichini, C., Scarinci, R., Balestri, M., Farnetani, M.A., Cioni, M., Morgese, G. and Balestri, P. 2005. Chromosome 18 aberrations and epilepsy: a review. *Am. J. Med. Genet. A* 134A: 88-94.
7. Nusbaum, C., Zody, M.C., Borowsky, M.L., Kamal, M., Kodira, C.D., Taylor, T.D., Whittaker, C.A., Chang, J.L., Cuomo, C.A., Dewar, K., Fitzgerald, M.G., Yang, X., Abouelleil, A., Allen, N.R., Anderson, S., Bloom, T., et al. 2005. DNA sequence and analysis of human chromosome 18. *Nature* 437: 551-555.
8. Pickard, B.S., Malloy, M.P., Clark, L., Lehellard, S., Ewald, H.L., Mors, O., Porteous, D.J., Blackwood, D.H. and Muir, W.J. 2005. Candidate psychiatric illness genes identified in patients with pericentric inversions of chromosome 18. *Psychiatr. Genet.* 15: 37-44.

## CHROMOSOMAL LOCATION

Genetic locus: D18Ertd653e (mouse) mapping to 18 E2.

## RESEARCH USE

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

## PRODUCT

LDLRAD4 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LDLRAD4 shRNA Plasmid (m): sc-141838-SH and LDLRAD4 shRNA (m) Lentiviral Particles: sc-141838-V as alternate gene silencing products.

For independent verification of LDLRAD4 (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-141838A, sc-141838B and sc-141838C.

## 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

LDLRAD4 siRNA (m) is recommended for the inhibition of LDLRAD4 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  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LDLRAD4 gene expression knockdown using RT-PCR Primer: LDLRAD4 (m)-PR: sc-141838-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.