

SorLA siRNA (m): sc-44376

BACKGROUND

Sortilin-related receptor, also known as sorting protein-related receptor containing LDLR class A (SorLA), is a Type I membrane protein that may be involved in cell-cell interaction. SorLA, a single transmembrane receptor, binds LDL (the main cholesterol-carrying lipoprotein of plasma) and transports it into cells by endocytosis. SorLA is synthesized as a proreceptor which is processed to the mature form by a furin-like propeptidase. It can also bind to RAP (receptor-associated protein). SorLA is a multifunctional endocytosis receptor important in lipoprotein and protease uptake. The N-terminal propeptide, which is removed, can be cleaved by furin or homologous proteases. Endogenous SorLA binds the neuropeptide head activator (HA) and is important for HA signaling and function. SorLA is expressed mainly in brain (cerebral cortex, cerebellum and the occipital pole), but can also be found in liver, spinal cord, kidney, testis and pancreas.

REFERENCES

- Jacobsen, L., Madsen, P., Moestrup, S.K., Lund, A.H., Tommerup, N., Nykjaer, A., Sottrup-Jensen, L., Gliemann, J. and Petersen, C.M. 1996. Molecular characterization of a novel human hybrid-type receptor that binds the α -2-Macroglobulin receptor-associated protein. *J. Biol. Chem.* 271: 31379-31383.
- Morwald, S., Yamazaki, H., Bujo, H., Kusunoki, J., Kanaki, T., Seimiya, K., Morisaki, N., Nimpf, J., Schneider, W.J. and Saito, Y. 1997. A novel mosaic protein containing LDL receptor elements is highly conserved in humans and chickens. *Arterioscler. Thromb. Vasc. Biol.* 17: 996-1002.
- Nielsen, M.S., Jacobsen, C., Olivecrona, G., Gliemann, J. and Petersen, C.M. 1999. Sortilin/neurotensin receptor-3 binds and mediates degradation of lipoprotein lipase. *J. Biol. Chem.* 274: 8832-8836.
- Lintzel, J., Franke, I., Riedel, I.B., Schaller, H.C. and Hampe, W. 2002. Characterization of the VPS10 domain of SorLA/LR11 as binding site for the neuropeptide HA. *Biol. Chem.* 383:1727-1733.
- SWISS-PROT/TrEMBL (Q92673). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: Sorl1 (mouse) mapping to 9 A5.1.

PRODUCT

SorLA 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 SorLA shRNA Plasmid (m): sc-44376-SH and SorLA shRNA (m) Lentiviral Particles: sc-44376-V as alternate gene silencing products.

For independent verification of SorLA (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-44376A, sc-44376B and sc-44376C.

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 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

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

GENE EXPRESSION MONITORING

SorLA (48): sc-136073 is recommended as a control antibody for monitoring of SorLA 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SorLA gene expression knockdown using RT-PCR Primer: SorLA (m)-PR: sc-44376-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Na, J.Y., Song, K., Lee, J.W., Kim, S. and Kwon, J. 2017. Sortilin-related receptor 1 interacts with amyloid precursor protein and is activated by 6-shogaol, leading to inhibition of the amyloidogenic pathway. *Biochem. Biophys. Res. Commun.* 484: 890-895.

PROTOCOLS

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