

SorCS3 siRNA (h): sc-106558

BACKGROUND

Vacuolar sorting proteins (VPSs) are required for proper trafficking of endocytic and biosynthetic proteins to the vacuole and play an important role in the budding process of cells. SorCS3 (sortilin-related VPS10 domain containing receptor 3) is a 1,222 amino acid single-pass type I membrane protein that contains one PKD domain and six BNR repeats. Highly expressed in brain, SorCS3 belongs to a subfamily of VPS proteins that are highly expressed in the nervous system where they function as neuronal receptors. The gene encoding SorCS3 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Several protein-coding genes, including those that encode for chemokines, cadherins, excision repair proteins, early growth response factors (Egrs) and fibroblast growth receptors (FGFRs), are located on chromosome 10. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

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2. Hermey, G., et al. 1999. Identification and characterization of SorCS, a third member of a novel receptor family. *Biochem. Biophys. Res. Commun.* 266: 347-351.
3. Hampe, W., et al. 2001. The genes for the human VPS10 domain-containing receptors are large and contain many small exons. *Hum. Genet.* 108: 529-536.
4. Rezaoui, M., et al. 2001. Identification of SorCS2, a novel member of the VPS10 domain containing receptor family, prominently expressed in the developing mouse brain. *Mech. Dev.* 100: 335-338.
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CHROMOSOMAL LOCATION

Genetic locus: SORCS3 (human) mapping to 10q25.1.

PRODUCT

SorCS3 siRNA (h) 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 SorCS3 shRNA Plasmid (h): sc-106558-SH and SorCS3 shRNA (h) Lentiviral Particles: sc-106558-V as alternate gene silencing products.

For independent verification of SorCS3 (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-106558A, sc-106558B and sc-106558C.

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

SorCS3 siRNA (h) is recommended for the inhibition of SorCS3 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 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 SorCS3 gene expression knockdown using RT-PCR Primer: SorCS3 (h)-PR: sc-106558-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.

PROTOCOLS

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