SANTA CRUZ BIOTECHNOLOGY, INC.

SorCS2 siRNA (h): sc-88953

BACKGROUND

There are three SorCS genes that have diverse, partially overlapping functions in the central nervous system. In the developing and mature central nervous system, SorCS1, SorCS2 and SorCS3 genes are expressed in a combinatorial, non-overlapping pattern. SorCS proteins show homology to the mosaic receptor SorLA and the neurotensin receptor sortilin, based on a common VPS10 domain, which is the hallmark of the SorCS receptor family. SorCS2 (sortilin-related VPS10 domain containing receptor 2) is a 1,150 amino acid single-pass type I membrane protein that is highly expressed in brain and kidney. Containing six BNR repeats and a single PKD domain, SorCS2 is encoded by a gene that maps to human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

REFERENCES

1. 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.
2. Hermey, G. and Schaller, H.C. 2000. Alternative splicing of murine SorCS leads to two forms of the receptor that differ completely in their cytoplasmic tails. Biochim. Biophys. Acta 1491: 350-354.
3. Rezgaoui, 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.
4. Hermey, G., et al. 2001. Transient expression of SorCS in developing telencephalic and mesencephalic structures of the mouse. Neuroreport 12: 29-32.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606284. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Hermey, G., et al. 2004. The three SorCS genes are differentially expressed and regulated by synaptic activity. J. Neurochem. 88: 1470-1476.

CHROMOSOMAL LOCATION

Genetic locus: SORCS2 (human) mapping to 4p16.1.

PRODUCT

SorCS2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SorCS2 shRNA Plasmid (h): sc-88953-SH and SorCS2 shRNA (h) Lentiviral Particles: sc-88953-V as alternate gene silencing products.

For independent verification of SorCS2 (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-88953A, sc-88953B and sc-88953C.

PROTOCOLS

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SorCS2 siRNA (h) is recommended for the inhibition of SorCS2 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 µM in 66 µl. 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

SorCS2 (A-10): sc-398412 is recommended as a control antibody for monitoring of SorCS2 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SorCS2 gene expression knockdown using RT-PCR Primer: SorCS2 (h)-PR: sc-88953-PR (20 µl). 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.