

# SRRD siRNA (h): sc-77042

## BACKGROUND

The SRR1 family of proteins are involved in regulating SOX2 expression during neurodevelopment and are active in neural stem cells. SRRD, also known as SRR1-like protein, SRR1 domain-containing protein or SRR1L, is a 339 amino acid protein belonging to the SRR1 family. SRRD may function in circadian clock input pathways and biological rhythms. The gene encoding SRRD maps to human chromosome 22q12.1. Chromosome 22 houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, Neurofibromatosis type 2, autism and schizophrenia.

## REFERENCES

1. Dunham, I., Shimizu, N., Roe, B.A., Chisoe, S., Hunt, A.R., Collins, J.E., Bruskewich, R., Beare, D.M., Clamp, M., Smink, L.J., Ainscough, R., Almeida, J.P., Babbage, A., Bagguley, C., Bailey, J., Barlow, K., Bates, K.N., et al. 1999. The DNA sequence of human chromosome 22. *Nature* 402: 489-495.
2. Jarmuz, A., Chester, A., Bayliss, J., Gisbourne, J., Dunham, I., Scott, J. and Navaratnam, N. 2002. An anthropoid-specific locus of orphan C to U RNA-editing enzymes on chromosome 22. *Genomics* 79: 285-296.
3. Sikorska, M., Sandhu, J.K., Deb-Rinker, P., Jezierski, A., Leblanc, J., Charlebois, C., Ribecco-Lutkiewicz, M., Bani-Yaghoub, M. and Walker, P.R. 2008. Epigenetic modifications of SOX2 enhancers, SRR1 and SRR2, correlate with *in vitro* neural differentiation. *J. Neurosci. Res.* 86: 1680-1693.
4. Streng, S., Froster, U.G., Kujat, A., Bernhard, M. and Merkschlager, A. 2008. Muscular hypotonia, developmental retardation, speech delay and mildly dysmorphic features: 22q13 deletion syndrome (Phelan-McDermid syndrome) as an important differential diagnosis. *Klin. Padiatr.* 220: 318-320.
5. Gratacòs, M., Costas, J., de Cid, R., Bayes, M., González, J.R., Baca-García, E., de Diego, Y., Fernández-Aranda, F., Fernández-Piqueras, J., Guitart, M., Martín-Santos, R., Martorell, L., Menchón, J.M., Roca, M., et al. 2009. Identification of new putative susceptibility genes for several psychiatric disorders by association analysis of regulatory and non-synonymous SNPs of 306 genes involved in neurotransmission and neurodevelopment. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 150B: 808-816.
6. Zirn, B., Arning, L., Bartels, I., Shoukier, M., Hoffjan, S., Neubauer, B. and Hahn, A. 2010. Ring chromosome 22 and neurofibromatosis type II: proof of two-hit model for the loss of the NF2 gene in the development of meningioma. *Clin. Genet.* 81: 82-87.

## CHROMOSOMAL LOCATION

Genetic locus: SRRD (human) mapping to 22q12.1.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

SRRD 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SRRD shRNA Plasmid (h): sc-77042-SH and SRRD shRNA (h) Lentiviral Particles: sc-77042-V as alternate gene silencing products.

For independent verification of SRRD (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-77042A, sc-77042B and sc-77042C.

## 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

SRRD siRNA (h) is recommended for the inhibition of SRRD 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  $\mu$ 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 SRRD gene expression knockdown using RT-PCR Primer: SRRD (h)-PR: sc-77042-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.