

RBM7 siRNA (h): sc-96828

BACKGROUND

Proteins containing RNA recognition motifs, including various hnRNP proteins, are implicated in the regulation of alternative splicing and protein components of snRNPs. The RBM (RNA-binding motif) gene family encodes proteins with an RNA binding motif that have been suggested to play a role in the modulation of apoptosis. RBM7 (RNA binding motif protein 7) is a 266 amino acid protein that contains one RRM (RNA recognition motif) domain and is suggested to participate in germ cell RNA processing and meiosis. Ubiquitously expressed, RBM7 is expressed in a cell-restricted fashion and is encoded by a gene that maps to human chromosome 11. Chromosome 11 houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that map to chromosome 11.

REFERENCES

1. Fabiani, J.E., Avigliano, A., Dupont and J.C., Fabiana, J.E. 2000. Hereditary angioedema. Long-term follow-up of 88 patients. Experience of the Argentine Allergy and Immunology Institute. *Allergol. Immunopathol.* 28: 267-271.
2. Jira, P.E., Waterham, H.R., Wanders, R.J., Smeitink, J.A., Sengers and R.C., Wevers, R.A. 2003. Smith-Lemli-Opitz syndrome and the DHCR7 gene. *Ann. Hum. Genet.* 67: 269-280.
3. Guo, T.B., Boros, L.G., Chan, K.C., Hikim, A.P., Hudson, A.P., Swerdloff, R.S., Mitchell and A.P., Salameh, W.A. 2003. Spermatogenic expression of RNA-binding motif protein 7, a protein that interacts with splicing factors. *J. Androl.* 24: 204-214.
4. Schuchman, E.H. 2007. The pathogenesis and treatment of acid sphingomyelinase-deficient Niemann-Pick disease. *J. Inher. Metab. Dis.* 30: 654-663.
5. Bhuiyan, Z.A., Momenah, T.S., Amin, A.S., Al-Khadra, A.S., Alders, M., Wilde and A.A., Mannens, M.M. 2008. An intronic mutation leading to incomplete skipping of exon-2 in KCNQ1 rescues hearing in Jervell and Lange-Nielsen syndrome. *Prog. Biophys. Mol. Biol.* 98: 319-327.
6. Coldren, C.D., Lai, Z., Shragg, P., Rossi, E., Glidewell, S.C., Zuffardi, O., Mattina, T., Ivy, D.D., Curfs, L.M., Mattson, S.N., Riley, E.P., Treier and M., Grossfeld, P.D. 2009. Chromosomal microarray mapping suggests a role for BSX and Neurogranin in neurocognitive and behavioral defects in the 11q terminal deletion disorder (Jacobsen syndrome). *Neurogenetics* 10: 89-95.
7. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612413. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: RBM7 (human) mapping to 11q23.2.

PROTOCOLS

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

PRODUCT

RBM7 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 RBM7 shRNA Plasmid (h): sc-96828-SH and RBM7 shRNA (h) Lentiviral Particles: sc-96828-V as alternate gene silencing products.

For independent verification of RBM7 (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-96828A, sc-96828B and sc-96828C.

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

RBM7 siRNA (h) is recommended for the inhibition of RBM7 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 RBM7 gene expression knockdown using RT-PCR Primer: RBM7 (h)-PR: sc-96828-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.