

RBM11 siRNA (m): sc-152724

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. RBM11 (RNA-binding protein 11) is a 281 amino acid nuclear protein that contains one RNA recognition motif. RBM11 exists as two isoforms produced by alternative splicing and is expressed in testis, kidney, spleen, brain, spinal cord and mammary gland. The gene that encodes RBM11 maps to chromosome 21, the smallest of the human chromosomes. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. Alzheimer's disease, Jervell and Lange-Nielsen syndrome and amyotrophic lateral sclerosis are also associated with chromosome 21.

REFERENCES

1. Gardiner, K., Slavov, D., Bechtel, L. and Davisson, M. 2002. Annotation of human chromosome 21 for relevance to Down syndrome: gene structure and expression analysis. *Genomics* 79: 833-843.
2. Sutherland, L.C., Rintala-Maki, N.D., White, R.D. and Morin, C.D. 2005. RNA binding motif (RBM) proteins: a novel family of apoptosis modulators? *J. Cell. Biochem.* 94: 5-24.
3. Lim, J., Hao, T., Shaw, C., Patel, A.J., Szabó, G., Rual, J.F., Fisk, C.J., Li, N., Smolyar, A., Hill, D.E., Barabási, A.L., Vidal, M. and Zoghbi, H.Y. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. *Cell* 125: 801-814.
4. Sommer, C.A. and Henrique-Silva, F. 2008. Trisomy 21 and Down syndrome: a short review. *Braz. J. Biol.* 68: 447-452.
5. Bertini, V., Valetto, A., Uccelli, A., Tarantino, E. and Simi, P. 2008. Ring chromosome 21 and reproductive pattern: a familial case and review of the literature. *Fertil. Steril.* 90: 2004.e1-2004.e5.
6. Jellinger, K.A., Janetzky, B., Attems, J. and Kienzl, E. 2008. Biomarkers for early diagnosis of Alzheimer disease: "Alzheimer associated gene"—a new blood biomarker? *J. Cell. Mol. Med.* 12: 1094-1117.
7. Shin, M.G., Choi, H.W., Kim, H.R., Kim, M.J., Baek, H.J., Han, D.K., Kook, H., Hwang, T.J., Kim, H.J., Kim, S.H., Shin, J.H., Suh, S.P. and Ryang, D.W. 2008. Tetrasomy 21 as a sole acquired abnormality without GATA1 gene mutation in pediatric acute megakaryoblastic leukemia: a case report and review of the literature. *Leuk. Res.* 32: 1615-1619.
8. Moore, S.W. 2008. Down syndrome and the enteric nervous system. *Pediatr. Surg. Int.* 24: 873-883.

CHROMOSOMAL LOCATION

Genetic locus: Rbm11 (mouse) mapping to 16 C3.1.

PROTOCOLS

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

PRODUCT

RBM11 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 RBM11 shRNA Plasmid (m): sc-152724-SH and RBM11 shRNA (m) Lentiviral Particles: sc-152724-V as alternate gene silencing products.

For independent verification of RBM11 (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-152724A, sc-152724B and sc-152724C.

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

RBM11 siRNA (m) is recommended for the inhibition of RBM11 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RBM11 gene expression knockdown using RT-PCR Primer: RBM11 (m)-PR: sc-152724-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.