

RBM41 siRNA (m): sc-152748

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. RBM41 (RNA-binding motif protein 41) is a 413 amino acid protein that contains one RRM (RNA recognition motif) domain and exists as three alternatively spliced isoforms. The RBM41 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome Xq22.3. Chromosome X consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia, and Duchenne muscular dystrophy are well known X chromosome-linked conditions that affect males more frequently as males carry a single X chromosome.

REFERENCES

1. McKee, A.E., Minet, E., Stern, C., Riahi, S., Stiles, C.D. and Silver, P.A. 2005. A genome-wide *in situ* hybridization map of RNA-binding proteins reveals anatomically restricted expression in the developing mouse brain. *BMC Dev. Biol.* 5: 14.
2. Deeb, S.S. 2005. The molecular basis of variation in human color vision. *Clin. Genet.* 67: 369-377.
3. Ross, M.T., Grafham, D.V., Coffey, A.J., Scherer, S., McLay, K., Muzny, D., Platzer, M., Howell, G.R., Burrows, C., Bird, C.P., Frankish, A., Lovell, F.L., Howe, K.L., Ashurst, J.L., Fulton, R.S., Sudbrak, R., Wen, G., et al. 2005. The DNA sequence of the human X chromosome. *Nature* 434: 325-337.
4. Rual, J.F., Venkatesan, K., Hao, T., Hirozane-Kishikawa, T., Dricot, A., Li, N., Berriz, G.F., Gibbons, F.D., Dreze, M., Ayivi-Guedehoussou, N., Klitgord, N., Simon, C., Boxem, M., Milstein, S., Rosenberg, J., Goldberg, D.S., et al. 2005. Towards a proteome-scale map of the human protein-protein interaction network. *Nature* 437: 1173-1178.
5. Hayashi, T., Kubo, A., Takeuchi, T., Gekka, T., Goto-Omoto, S. and Kitahara, K. 2006. Novel form of a single X-linked visual pigment gene in a unique dichromatic color-vision defect. *Vis. Neurosci.* 23: 411-417.
6. Lee, M.H. and Schedl, T. 2006. RNA-binding proteins. *WormBook* 18: 1-13.

CHROMOSOMAL LOCATION

Genetic locus: Rbm41 (mouse) mapping to X F1.

PRODUCT

RBM41 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 RBM41 shRNA Plasmid (m): sc-152748-SH and RBM41 shRNA (m) Lentiviral Particles: sc-152748-V as alternate gene silencing products.

For independent verification of RBM41 (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-152748A, sc-152748B and sc-152748C.

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

RBM41 siRNA (m) is recommended for the inhibition of RBM41 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 RBM41 gene expression knockdown using RT-PCR Primer: RBM41 (m)-PR: sc-152748-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.