SANTA CRUZ BIOTECHNOLOGY, INC.

RBMY1 siRNA (h): sc-270225

BACKGROUND

The RBM (RNA-binding motif) gene family encodes proteins with an RNA binding motif. RBMY (RBM, Y chromosome) encodes a germ-cell specific nuclear protein involved in spermatogenesis. The RBM gene family, including RBMY1A, RBMY1B, RBMY1D, RBMY1E, RBMY1F, RBMY1H and RBMY1J, is comprised of at least 30 genes and pseudogenes, found on both arms of the Y chromosome. RBM X, an ancestral X chromosome homolog of the RBMY gene, encodes hnRNP G, which is widely expressed, whereas the RBMY gene evolved a male-specific function in spermatogenesis. Micro-deletions of the AZFb region of the Y chromosome, which contains a number of RBMY genes, usually result in severe consequences for spermatogenesis. RBM expression is localized to the nuclei of germ cells and RBM interacts with Tra2β. Tra2β is a ubiquitous activator of pre-mRNA splicing, but is most highly expressed in testis, suggesting a role for RBM in Tra2β-dependent splicing in spermatocytes. The human RBMX gene maps to chromosome Xq26 and the RBMY gene family is found on all mammalian Y chomosomes.

REFERENCES

1. Chai, N.N., et al. 1998. Structure and organization of the RBMY genes on the human Y chromosome: transposition and amplification of an ancestral autosomal hnRNPG gene. Genomics 49: 283-289.
2. Mazeyrat, S., et al. 1999. RBMY evolved on the Y chromosome from a ubiquitously transcribed X-Y identical gene. Nat. Genet. 22: 224-226.
3. Elliott, D.J., et al. 2000. A mammalian germ cell-specific RNA-binding protein interacts with ubiquitously expressed proteins involved in splice site selection. Proc. Natl. Acad. Sci. USA 97: 5717-5722.
4. Elliott, D.J. 2000. RBMY genes and AZFb deletions. J. Endocrinol. Invest. 23: 652-668.
5. Venables, J.P., et al. 2000. RBMY, a probable human spermatogenesis factor, and other hnRNP G proteins interact with Tra2β and affect splicing. Hum. Mol. Genet. 9: 685-694.
6. LocusLink Report (LocusID: 27316). http://www.ncbi.nlm.nih.gov/LocusLink

CHROMOSOMAL LOCATION

Genetic locus: RBMY1E/RBMY1J/RBMY1F/RBMY1B/RBMY1A1/RBMY1D (human) mapping to Yq11.223.

PRODUCT

RBMY1 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 RBMY1 shRNA Plasmid (h): sc-270225-SH and RBMY1 shRNA (h) Lentiviral Particles: sc-270225-V as alternate gene silencing products.

For independent verification of RBMY1 (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-270225A, sc-270225B and sc-270225C.

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

RBMY1 siRNA (h) is recommended for the inhibition of RBMY1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RBMY1 gene expression knockdown using RT-PCR Primer: RBMY1 (h)-PR: sc-270225-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.

PROTOCOLS

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