SANTA CRUZ BIOTECHNOLOGY, INC.

RBMX siRNA (m): sc-38275

BACKGROUND

Heterogeneous nuclear ribonucleoproteins (hnRNPs) constitute a set of polypeptides that contribute to mRNA transcription, pre-mRNA processing as well as mature mRNA transport to the cytoplasm and translation. They also bind heterogeneous nuclear RNA (hnRNA), which are the transcripts produced by RNA polymerase II. There are approximately 20 known hnRNP proteins, and their complexes are the major constituents of the spliceosome. The majority of hnRNP proteins components are localized to the nucleus; however some shuttle between the nucleus and the cytoplasm. RBMX (also known as hnRNP G) is a glycoprotein originally identified as an autoantigen from German shepherd dogs with lupus-like syndrome. The gene encoding RBMX is located on chromosome Xq26.3 and is ubiquitously expressed. It contains one RNP-consensus RNA binding domain (RBD) and is related to RBMY, which is involved in spermatogenesis, and RBMXL2, which is a testis specific protein. All three proteins interact with Tra2b, and therefore are involved in pre-mRNA splicing.

REFERENCES

1. Soulard, M., et al. 1993. hnRNP G: sequence and characterization of a glycosylated RNA-binding protein. Nucleic Acids Res. 21: 4210-4217.
2. Badolato, J., et al. 1995. Identification and characterisation of a novel human RNA-binding protein. Gene 166: 323-337.
3. Siomi, H. et al. 1995. A nuclear localization domain in the hnRNP A1 protein. J. Cell Biol. 129: 551-560.
4. Soulard, M., et al. 1996. The I protein of the heterogeneous nuclear ribonucleoprotein complex is a novel dog nuclear autoantigen. J. Autoimmun. 9: 599-608.
5. Kim, J.H., et al. 2000. Protein-protein interaction among hnRNPs shuttling between nucleus and cytoplasm. J. Mol. Biol. 298: 395-405.
6. Melcak, I., et al. 2000. Nuclear pre-mRNA compartmentalization: trafficking of released transcripts to splicing factor reservoirs. Mol. Biol. Cell 11: 497-510.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: Rbmx (mouse) mapping to X A5.

PRODUCT

RBMX 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RBMX shRNA Plasmid (m): sc-38275-SH and RBMX shRNA (m) Lentiviral Particles: sc-38275-V as alternate gene silencing products.

For independent verification of RBMX (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-38275A, sc-38275B and sc-38275C.

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

RBMX siRNA (m) is recommended for the inhibition of RBMX 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 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 RBMX gene expression knockdown using RT-PCR Primer: RBMX (m)-PR: sc-38275-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.