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SANTA CRUZ BIOTECHNOLOGY, INC.

RBM22 siRNA (m): sc-152734

BACKGROUND

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. RBM22, also designated zinc finger CCCH domain-containing protein 16, is a highly conserved RNA binding protein that is predominantly expressed in spleen and is localized to the nucleus. With a RRM (RNA recognition motif domain) and a C3H1-type zinc finger, RBM22 is primarily involved in pre-mRNA splicing. In the presence of RBM22, cytosolic ALG-2 (apoptosis linked gene 2) translocates to the nucleus, suggesting a functional interaction between the two proteins. Homologs of RBM22 are essential proteins in the regulation of alternative splicing in the cell cycle, zebrafish development and *Drosophilia* heart development. The gene encoding RBM22 is significantly downregulated in patients with the 5q deletion syndrome, a clonal disease of the hematopoietic stem cell in which characteristic changes in megakaryocytes result in treatement-resistant anemia and myelodysplastic syndromes that may eventually lead to acute myelogenous leukemia.

REFERENCES

1. Kittler, R., et al. 2004. An endoribonuclease-prepared siRNA screen in human cells identifies genes essential for cell division. Nature 432: 1036-1040.
2. Kim, Y.O., et al. 2004. A functional genomic screen for cardiogenic genes using RNA interference in developing *Drosophila* embryos. Proc. Natl. Acad. Sci. USA 101: 159-164.
3. Sutherland, L.C., et al. 2005. RNA binding motif (RBM) proteins: a novel family of apoptosis modulators? J. Cell. Biochem. 94: 5-24.
4. Montaville, P., et al. 2006. Nuclear translocation of the calcium-binding protein ALG-2 induced by the RNA-binding protein RBM22. Biochim. Biophys. Acta 1763: 1335-1343.
5. Boultwood, J., et al. 2007. Gene expression profiling of $CD34^+$ cells in patients with the 5q- syndrome. Br. J. Haematol. 139: 578-589.

CHROMOSOMAL LOCATION

Genetic locus: Rbm22 (mouse) mapping to 18 D3.

PRODUCT

RBM22 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 RBM22 shRNA Plasmid (m): sc-152734-SH and RBM22 shRNA (m) Lentiviral Particles: sc-152734-V as alternate gene silencing products.

For independent verification of RBM22 (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-152734A, sc-152734B and sc-152734C.

PROTOCOLS

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

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

RBM22 siRNA (m) is recommended for the inhibition of RBM22 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 RBM22 gene expression knockdown using RT-PCR Primer: RBM22 (m)-PR: sc-152734-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.