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SANTA CRUZ BIOTECHNOLOGY, INC.

RBM17 siRNA (m): sc-152730

BACKGROUND

RBM17 (RNA binding motif protein 17), also known as SPF45 (splicing factor 45) is a 401 amino acid protein that localizes to the nucleus and contains one G-patch domain and one RRM (RNA recognition motif) domain. Interaction the with multi-protein spliceosome complex, RBM17 functions as a splicing factor that binds to a specific region at the intron/exon border and is thought to be involved in the regulation of alternative splicing, as well as in the utilization of cryptic splice sites. The gene encoding RBM17 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Neubauer, G., et al. 1998. Mass spectrometry and EST-database searching allows characterization of the multi-protein spliceosome complex. Nat. Genet. 20: 46-50.
2. Lallena, M.J., et al. 2002. Splicing regulation at the second catalytic step by Sex-lethal involves 3' splice site recognition by SPF45. Cell 109: 285-296.
3. Will, C.L., et al. 2002. Characterization of novel SF3b and 17S U2 snRNP proteins, including a human Prp5p homologue and an SF3b DEAD-box protein. EMBO J. 21: 4978-4988.
4. Sampath, J., et al. 2003. Human SPF45, a splicing factor, has limited expression in normal tissues, is overexpressed in many tumors, and can confer a multidrug-resistant phenotype to cells. Am. J. Pathol. 163: 1781-1790.
5. Perry, W.L., et al. 2005. Human splicing factor SPF45 (RBM17) confers broad multidrug resistance to anticancer drugs when overexpressed—a phenotype partially reversed by selective estrogen receptor modulators. Cancer Res. 65: 6593-6600.
6. Corsini, L., et al. 2007. U2AF-homology motif interactions are required for alternative splicing regulation by SPF45. Nat. Struct. Mol. Biol. 14: 620-629.

CHROMOSOMAL LOCATION

Genetic locus: Rbm17 (mouse) mapping to 2 A1.

PRODUCT

RBM17 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 RBM17 shRNA Plasmid (m): sc-152730-SH and RBM17 shRNA (m) Lentiviral Particles: sc-152730-V as alternate gene silencing products.

For independent verification of RBM17 (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-152730A, sc-152730B and sc-152730C.

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

RBM17 siRNA (m) is recommended for the inhibition of RBM17 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.

GENE EXPRESSION MONITORING

RBM17 (F-5): sc-515587 is recommended as a control antibody for monitoring of RBM17 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RBM17 gene expression knockdown using RT-PCR Primer: RBM17 (m)-PR: sc-152730-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.