SANTA CRUZ BIOTECHNOLOGY, INC.

RBM4 siRNA (h): sc-76369

BACKGROUND

RBM4 (RNA binding motif protein 4), also known as LARK, RBM4A, ZCRB3A or ZCCHC21, is a 364 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one CCHC-type zinc finger and two RRM domains. Expressed ubiquitously, RBM4 interacts with Importin-12 (an association which results in the nuclear import of RBM4) and is thought to play a role in alternative splice site selection during pre-mRNA processing. RBM4 is down-regulated in patients affected with fetal Down syndrome (DS), suggesting that RBM4 may be involved in the regulation of normal brain development. Multiple isoforms of RBM4 exist due to alternative splicing events. RBM4B (RNA binding motif protein 4B), also known as RBM30, is a 359 amino acid protein that functions in a similar manner to RBM4 and is involved in the regulation of alternative splicing.

REFERENCES

1. Jackson, F.R., et al. 1997. A novel zinc finger-containing RNA-binding protein conserved from fruitflies to humans. Genomics 41: 444-452.
2. Bernert, G., et al. 2002. Manifold decreased protein levels of matrin 3, reduced motor protein HMP and hlark in fetal Down's syndrome brain. Proteomics 2: 1752-1757.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602571. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Lin, J.C. and Tarn, W.Y. 2005. Exon selection in α-tropomyosin mRNA is regulated by the antagonistic action of RBM4 and PTB. Mol. Cell. Biol. 25: 10111-10121.
5. Markus, M.A., et al. 2006. WT1 interacts with the splicing protein RBM4 and regulates its ability to modulate alternative splicing *in vivo*. Exp. Cell Res. 312: 3379-3388.
6. Kar, A., et al. 2006. RBM4 interacts with an intronic element and stimulates Tau exon 10 inclusion. J. Biol. Chem. 281: 24479-24488.

CHROMOSOMAL LOCATION

Genetic locus: RBM4 (human) mapping to 11q13.2.

PRODUCT

RBM4 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 RBM4 shRNA Plasmid (h): sc-76369-SH and RBM4 shRNA (h) Lentiviral Particles: sc-76369-V as alternate gene silencing products.

For independent verification of RBM4 (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-76369A, sc-76369B and sc-76369C.

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

RBM4 siRNA (h) is recommended for the inhibition of RBM4 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.

GENE EXPRESSION MONITORING

RBM4 (E-3): sc-373852 is recommended as a control antibody for monitoring of RBM4 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 RBM4 gene expression knockdown using RT-PCR Primer: RBM4 (h)-PR: sc-76369-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.