SANTA CRUZ BIOTECHNOLOGY, INC.

RBM3 siRNA (h): sc-91221

BACKGROUND

RBM3 (RNA binding motif (RNP1, RRM) protein 3), also known as RNPL, is a 157 amino acid protein that contains one RRM domain and is subject to post-translational dimethylation. Induced by cold shock and low oxygen tension, RBM3 exists as multiple alternatively spliced isoforms and is thought to function as a proto-oncogene, possibly playing a role in tumor transformation and metastasis. The gene encoding RBM3 maps to human chromosome X, which contains nearly 153 million base pairs and houses over 1,000 genes. In conjunction with chromosome Y, chromosome X is responsible for sex determination. There are a number of conditions related to an abnormal number and combination of sex chromosomes, some of which include Turner's syndrome, color blindness, hemophilia and Duchenne muscular dystrophy.

REFERENCES

1. Derry, J.M., et al. 1995. RBM3, a novel human gene in Xp11.23 with a putative RNA-binding domain. Hum. Mol. Genet. 4: 2307-2311.
2. Danno, S., et al. 1997. Increased transcript level of RBM3, a member of the glycine-rich RNA-binding protein family, in human cells in response to cold stress. Biochem. Biophys. Res. Commun. 236: 804-807.
3. Chappell, S.A. and Mauro, V.P. 2003. The internal ribosome entry site (IRES) contained within the RNA-binding motif protein 3 (RBM3) mRNA is composed of functionally distinct elements. J. Biol. Chem. 278: 33793-33800.
4. Wellmann, S., et al. 2004. Oxygen-regulated expression of the RNA-binding proteins RBM3 and CIRP by a HIF-1-independent mechanism. J. Cell Sci. 117: 1785-1794.
5. Martínez-Arribas, F., et al. 2006. Positive correlation between the expression of X-chromosome RBM genes (RBMX, RBM3, RBM10) and the proapoptotic Bax gene in human breast cancer. J. Cell. Biochem. 97: 1275-1282.
6. Sureban, S.M., et al. 2008. Translation regulatory factor RBM3 is a proto-oncogene that prevents mitotic catastrophe. Oncogene 27: 4544-4556.

CHROMOSOMAL LOCATION

Genetic locus: RBM3 (human) mapping to Xp11.23.

PRODUCT

RBM3 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 RBM3 shRNA Plasmid (h): sc-91221-SH and RBM3 shRNA (h) Lentiviral Particles: sc-91221-V as alternate gene silencing products.

For independent verification of RBM3 (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-91221A, sc-91221B and sc-91221C.

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

RBM3 siRNA (h) is recommended for the inhibition of RBM3 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

RBM3 (A-7): sc-390139 is recommended as a control antibody for monitoring of RBM3 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 RBM3 gene expression knockdown using RT-PCR Primer: RBM3 (h)-PR: sc-91221-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.