

## ▶ RBMS1 siRNA (h): sc-94943

### BACKGROUND

RBMS1 (RNA binding motif, single stranded interacting protein 1), also known as YC1, MSSP (c-Myc single strand binding protein), SCR2 (suppressor of Cdc2 with RNA binding motif), MSSP-1, MSSP-2 or MSSP-3, is a member of the MSSP family of proteins. The MSSP family is comprised of proteins that bind to single stranded DNA/RNA. Through an interaction with the c-Myc protein, members of this family are involved in a wide variety of cellular functions, including gene transcription, DNA replication, apoptosis and cell cycle progression. RBMS1, a nuclear localized protein, is expressed in lung, placenta and heart with highest expression levels during the G<sub>1</sub> to S transition phase of the cell cycle. RBMS1 contains two RNP domains, namely RNP1-A and RNP1-B, both of which are necessary for DNA binding. RBMS1 specifically binds to a catalytic subunit of DNA polymerase (pol)  $\alpha$  and stimulates its activity *in vitro*. Due to alternative splicing events, various isoforms exist for RBMS1.

### REFERENCES

1. Kanaoka, Y. and Nojima, H. 1994. SCR: novel human suppressors of cdc2/cdc13 mutants of *Schizosaccharomyces pombe* harbour motifs for RNA binding proteins. *Nucleic Acids Res.* 22: 2687-2693.
2. Takai, T., et al. 1994. Molecular cloning of MSSP-2, a c-Myc gene single-strand binding protein: characterization of binding specificity and DNA replication activity. *Nucleic Acids Res.* 22: 5576-5581.
3. Negishi, Y., et al. 1994. Identification and cDNA cloning of single-stranded DNA binding proteins that interact with the region upstream of the human c-Myc gene. *Oncogene* 9: 1133-1143.
4. Haigermoser, C., et al. 1996. Cloning and characterization of the genomic DNA of the human MSSP genes. *Nucleic Acids Res.* 24: 3846-3857.
5. Niki, T., et al. 2000. MSSP, a protein binding to an origin of replication in the c-myc gene, interacts with a catalytic subunit of DNA polymerase  $\alpha$  and stimulates its polymerase activity. *FEBS Lett.* 475: 209-212.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602310. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: RBMS1 (human) mapping to 2q24.2.

### PRODUCT

RBMS1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RBMS1 shRNA Plasmid (h): sc-94943-SH and RBMS1 shRNA (h) Lentiviral Particles: sc-94943-V as alternate gene silencing products.

For independent verification of RBMS1 (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-94943A, sc-94943B and sc-94943C.

### 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

RBMS1 siRNA (h) is recommended for the inhibition of RBMS1 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  $\mu$ M in 66  $\mu$ l. 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

RBMS1 (73-K2): sc-101190 is recommended as a control antibody for monitoring of RBMS1 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

### RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RBMS1 gene expression knockdown using RT-PCR Primer: RBMS1 (h)-PR: sc-94943-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.