SANTA CRUZ BIOTECHNOLOGY, INC.

# RDM1 siRNA (h): sc-94181

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*The Power to Question*

## BACKGROUND

RDM1 (Rad52 motif-containing protein 1) is a 284 amino acid protein that is expressed in testis. RDM1 is involved in the cellular response to cisplatin, a drug commonly used in chemotherapy. Human RDM1 shares 71.1% and 51.2% amino acid identity with mouse and chicken RDM1, respectively. RDM1 exists as 11 alternatively spliced isoforms and only exon 3 is common to all variants. Usage of two translational start sites, one in exon 1 and the other in intron 1, produces RDM1 isoforms with either long or short N termini, and RDM1 isoforms have great diversity in their C termini as well. The RDM1 protein contains two motifs: a motif found in Rad52, a protein that functions in DNA double-strand breaks and homologous recombination, and an RNA recognition motif (RRM) that is not found in Rad52. The RDM1 gene contains seven coding exons, is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 17q12.

## REFERENCES


1. Baynton, K., et al. 2003. WRN interacts physically and functionally with the recombination mediator protein Rad52. J. Biol. Chem. 278: 36476-36486.
2. Hamimes, S., et al. 2005. RDM1, a novel RNA recognition motif (RRM)-containing protein involved in the cell response to cisplatin in vertebrates. J. Biol. Chem. 280: 9225-9235.
3. Hamimes, S., et al. 2006. Nucleic acid-binding properties of the RRM-containing protein RDM1. Biochem. Biophys. Res. Commun. 344: 87-94.
4. Rath, D. and Jawali, N. 2006. Loss of expression of cspC, a cold shock family gene, confers a gain of fitness in *Escherichia coli* K-12 strains. J. Bacteriol. 188: 6780-6785.
5. Messaoudi, L., et al. 2007. Subcellular distribution of human RDM1 protein isoforms and their nucleolar accumulation in response to heat shock and proteotoxic stress. Nucleic Acids Res. 35: 6571-6587.
6. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612896. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/


## CHROMOSOMAL LOCATION

Genetic locus: RDM1 (human) mapping to 17q12.

## PRODUCT

RDM1 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 RDM1 shRNA Plasmid (h): sc-94181-SH and RDM1 shRNA (h) Lentiviral Particles: sc-94181-V as alternate gene silencing products.

For independent verification of RDM1 (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-94181A, sc-94181B and sc-94181C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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

RDM1 siRNA (h) is recommended for the inhibition of RDM1 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RDM1 gene expression knockdown using RT-PCR Primer: RDM1 (h)-PR: sc-94181-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Chen, S.L., et al. 2020. Loss of RDM1 enhances hepatocellular carcinoma progression via p53 and Ras/Raf/ERK pathways. Mol. Oncol. 14: 373-386.


## PROTOCOLS

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