

# PRDM14 siRNA (h): sc-77737

## BACKGROUND

The PR-domain containing proteins (PRDMs) have a common involvement in the modulation of gene activities. A PR-domain family member usually produces two products, called PR-plus and PR-minus, which differ by the presence or absence of the PR domain, respectively. The PR-plus product is underexpressed or disrupted in cancer cells, whereas the PR-minus product is present or overexpressed in cancer cells. This imbalance in the amount of the two products, which is a result of either genetic or epigenetic events, appears to be a determining factor of malignancy. PRDM14 (PR domain-containing protein 14), also known as PFM11, is a 571 amino acid protein belonging to the PRDM family. Localizing to the nucleus, PRDM14 contains six C<sub>2</sub>H<sub>2</sub>-type zinc fingers and one SET domain. It is believed to participate in transcriptional regulation and may be involved in cell differentiation and tumorigenesis.

## REFERENCES

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2. Huang, S. 1999. The retinoblastoma protein-interacting zinc finger gene RIZ in 1p36-linked cancers. *Front. Biosci.* 4: D528-532.
3. Jiang, G.L. and Huang, S. 2000. The yin-yang of PR-domain family genes in tumorigenesis. *Histol. Histopathol.* 15: 109-117.
4. Strausberg, R.L., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. *Proc. Natl. Acad. Sci. USA* 99: 16899-16903.
5. Wilm, T.P. and Solnica-Krezel, L. 2004. Essential roles of a zebrafish PRDM1/blim organogenesis. *Development* 132: 393-404.
6. Fitzgerald, J. and Bateman, J.F. 2004. Why mice have lost genes for COL21A1, STK17A, GPR145 and AHRI: evidence for gene deletion at evolutionary breakpoints in the rodent lineage. *Trends Genet.* 20: 408-412.
7. Fumasoni, I., et al. 2007. Family expansion and gene rearrangements contributed to the functional specialization of PRDM genes in vertebrates. *BMC Evol. Biol.* 7: 187-187.

## CHROMOSOMAL LOCATION

Genetic locus: PRDM14 (human) mapping to 8p13.3.

## PRODUCT

PRDM14 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 PRDM14 shRNA Plasmid (h): sc-77737-SH and PRDM14 shRNA (h) Lentiviral Particles: sc-77737-V as alternate gene silencing products.

For independent verification of PRDM14 (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-77737A, sc-77737B and sc-77737C.

## 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

PRDM14 siRNA (h) is recommended for the inhibition of PRDM14 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

PRDM14 (F-10): sc-518186 is recommended as a control antibody for monitoring of PRDM14 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™ Molecular Weight Standards: sc-2035, UltraCruz® 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PRDM14 gene expression knockdown using RT-PCR Primer: PRDM14 (h)-PR: sc-77737-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.