

# PRDM4 siRNA (h): sc-106446

## BACKGROUND

The PR-domain containing proteins (PRDMs) have a common involvement in the modulation of gene activities, specifically via transcriptional activation or repression. PR-domain family members usually produce 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. The 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. PRDM4 (PR domain containing 4), also known as PFM1, is an 801 amino acid protein that localizes to the nucleus and contains one SET domain and six C<sub>2</sub>H<sub>2</sub>-type zinc fingers. Expressed in a variety of tissues, including brain, ovary, testis, heart, pancreas and prostate, PRDM4 is thought to function as a transcription factor that may be involved in cell differentiation and tumorigenesis.

## REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605780. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Fumasoni, I., Meani, N., Rambaldi, D., Scafetta, G., Alcalay, M. and Ciccarelli, F.D. 2007. Family expansion and gene rearrangements contributed to the functional specialization of PRDM genes in vertebrates. *BMC Evol. Biol.* 7: 187.
5. Bikoff, E.K. and Robertson, E.J. 2008. One PRDM is not enough for germ cell development. *Nat. Genet.* 40: 934-935.
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## CHROMOSOMAL LOCATION

Genetic locus: PRDM4 (human) mapping to 12q23.3.

## PRODUCT

PRDM4 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 PRDM4 shRNA Plasmid (h): sc-106446-SH and PRDM4 shRNA (h) Lentiviral Particles: sc-106446-V as alternate gene silencing products.

For independent verification of PRDM4 (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-106446A, sc-106446B and sc-106446C.

## 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

PRDM4 siRNA (h) is recommended for the inhibition of PRDM4 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

PRDM4 (A-10): sc-518205 is recommended as a control antibody for monitoring of PRDM4 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 PRDM4 gene expression knockdown using RT-PCR Primer: PRDM4 (h)-PR: sc-106446-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.