SANTA CRUZ BIOTECHNOLOGY, INC.

PRDM5 siRNA (h): sc-61397

BACKGROUND

A cDNA of PRDM5 was isolated based upon its homology to the PR domain of PRDM2. The gene encodes an open reading frame of 630 amino acids and contains a PR domain in the NH-terminal region followed by 16 zinc finger motifs. Through radiation hybrid analysis, PRDM5 was mapped to human chromosome 4q27, a region thought to contain tumor suppressor genes for ovarian, breast, lung, liver, colon, and other cancers. The gene has a CpG island promoter and is silenced in human breast, ovarian, and liver cancers. Upon infection of tumor cells, a recombinant adenovirus expressing PRDM5 causes G_2/M arrest and apoptosis, suggesting that inhibition of PRDM5 may be involved in carcinogenesis.

REFERENCES

1. Liu, L., et al. 1997. The retinoblastoma interacting zinc finger gene RIZ produces a PR domain-lacking product through an internal promoter. J. Biol. Chem. 272: 2984-2991.
2. Xie, M., et al. 1997. Transcriptional repression mediated by the PR domain zinc finger gene RIZ. J. Biol. Chem. 272: 26360-26366.
3. Huang, S., et al. 1998. The PR domain of the Rb-binding zinc finger protein RIZ1 is a protein binding interface and is related to the SET domain functioning in chromatin-mediated gene expression. J. Biol. Chem. 273: 15933-15939.
4. Yang, X.H., et al. 2000. PFM1 (PRDM4), a new member of the PR-domain family, locus on human chromosome 12q23-q24.1. Genomics 61: 319-325.
5. Jiang, G.L., et al. 2000. The yin-yang of PR-domain family genes in tumorigenesis. Histol. Histopathol. 15: 109-117.
6. Johnson, M.C., et al. 2001. PR domain of rous sarcoma virus Gag causes an assembly/budding defect in insect cells. J. Virol. 75: 4407-4412.
7. Nishikata, I., et al. 2003. A novel EVI1 gene family, MEL1, lacking a PR domain (MEL1S) is expressed mainly in t(1;3)(p36;q21)-positive AML and blocks G-CSF-induced myeloid differentiation. Blood 102: 3323-3332.
8. Deng, Q. and Huang, S. 2004. PRDM5 is silenced in human cancers and has growth suppressive activities. Oncogene 23: 4903-4910.

CHROMOSOMAL LOCATION

Genetic locus: PRDM5 (human) mapping to 4q27.

PRODUCT

PRDM5 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 PRDM5 shRNA Plasmid (h): sc-61397-SH and PRDM5 shRNA (h) Lentiviral Particles: sc-61397-V as alternate gene silencing products.

For independent verification of PRDM5 (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-61397A, sc-61397B and sc-61397C.

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

PRDM5 siRNA (h) is recommended for the inhibition of PRDM5 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

PRDM5 (A-12): sc-376277 is recommended as a control antibody for monitoring of PRDM5 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 PRDM5 gene expression knockdown using RT-PCR Primer: PRDM5 (h)-PR: sc-61397-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.

PROTOCOLS

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