

PRMT7 siRNA (m): sc-61406

BACKGROUND

Arginine methylation is an irreversible protein modification catalyzed by Arginine methyltransferases, such as PRMT7, which uses S-adenosylmethionine (AdoMet) as the methyl donor. Arginine methylation is implicated in signal transduction, RNA transport and RNA splicing. PRMT7 has two methyltransferase domains, each containing a putative AdoMet-binding motif. The N-terminal methyltransferase domain closely resembles the catalytic core of PRMT5, and the C-terminal domain is most similar to that of PRMT1. Three PRMT7 splice variants have been identified by database analysis. PRMT7 is localized to the nucleus and cytoplasm and moderate expression is observed in adult brain and lung tissues.

REFERENCES

1. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XXI. The complete sequences of 60 new cDNA clones from brain which code for large proteins. *DNA Res.* 8: 179-187.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610087. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Miranda, T.B., et al. 2004. PRMT7 is a member of the protein Arginine methyltransferase family with a distinct substrate specificity. *J. Biol. Chem.* 279: 22902-22907.
4. Lee, J.H., et al. 2005. PRMT7, a new protein Arginine methyltransferase that synthesizes symmetric dimethylarginine. *J. Biol. Chem.* 280: 3656-3664.
5. Miranda, T.B., et al. 2005. Protein Arginine methyltransferase 6 specifically methylates the nonhistone chromatin protein HMG1a. *Biochem. Biophys. Res. Commun.* 336: 831-835.
6. Zheng, Z., et al. 2005. A Mendelian locus on chromosome nephropathy in the mouse. *Proc. Natl. Acad. Sci. USA* 102: 2502-2507.

CHROMOSOMAL LOCATION

Genetic locus: Prmt7 (mouse) mapping to 8 D3.

PRODUCT

PRMT7 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PRMT7 shRNA Plasmid (m): sc-61406-SH and PRMT7 shRNA (m) Lentiviral Particles: sc-61406-V as alternate gene silencing products.

For independent verification of PRMT7 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61406A, sc-61406B and sc-61406C.

PROTOCOLS

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

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

APPLICATIONS

PRMT7 siRNA (m) is recommended for the inhibition of PRMT7 expression in mouse 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 μ M in 66 μ 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

PRMT7 (E-9): sc-376077 is recommended as a control antibody for monitoring of PRMT7 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 PRMT7 gene expression knockdown using RT-PCR Primer: PRMT7 (m)-PR: sc-61406-PR (20 μ 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.