SANTA CRUZ BIOTECHNOLOGY, INC.

PLA2G4B siRNA (O. cuniculus): sc-270341

BACKGROUND

A crucial regulator of chromatin dynamics and DNA transcription is the covalent modification and methylation of histones. Generally, methylation of certain lysine residues on Histone H3 and Histone H4 can be associated with transcriptionally active or inactive chromatin. This regulation has profound effects on the expression of genes and is part of an epigenetic memory network that determines cell fate. JMJD7 (Jumonji domain-containing protein 7) is a member of a family of JMJC domain-containing histone demethylases that are directly involved in removing methyl residues from distinct and unique lysine residues. These actions are implicated in gene expression and the regulation of cell senescence. JMJC domain-containing histone demethylases are also likely involved in development via their ability to regulate gene expression. JMJD7 contains one JMJC domain and was originally thought to be an alternatively spliced isoform of PLA2G4B.

REFERENCES

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2. Tsukada, Y., et al. 2006. Histone demethylation by a family of JmjC domain-containing proteins. Nature 439: 811-816.
3. Cloos, P.A., et al. 2006. The putative oncogene GASC1 demethylates tri- and dimethylated lysine 9 on Histone H3. Nature 442: 307-311.
4. Hong, S., et al. 2007. Identification of JmjC domain-containing UTX and JMJD3 as Histone H3 lysine 27 demethylases. Proc. Natl. Acad. Sci. USA 104: 18439-18444.
5. Chang, B., et al. 2007. JMJD6 is a histone arginine demethylase. Science 318: 444-447.
6. Pfau, R., et al. 2008. Members of a family of JmjC domain-containing oncoproteins immortalize embryonic fibroblasts via a JmjC domain-dependent process. Proc. Natl. Acad. Sci. USA 105: 1907-1912.
7. Cui, L., et al. 2008. Histone lysine methyltransferases and demethylases in *Plasmodium falciparum*. Int. J. Parasitol. 38: 1083-1097.

CHROMOSOMAL LOCATION

Genetic locus: PLA2G4B *(O. cuniculus)* mapping to 17.

PRODUCT

PLA2G4B siRNA (O. cuniculus) 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 PLA2G4B shRNA Plasmid (O. cuniculus): sc-270341-SH and PLA2G4B shRNA (O. cuniculus) Lentiviral Particles: sc-270341-V as alternate gene silencing products.

For independent verification of PLA2G4B (O. cuniculus) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270341A, sc-270341B and sc-270341C.

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

PLA2G4B siRNA (O. cuniculus) is recommended for the inhibition of PLA2G4B expression in *O. cuniculus* 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 PLA2G4B gene expression knockdown using RT-PCR Primer: PLA2G4B (O. cuniculus)-PR: sc-270341-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.