SANTA CRUZ BIOTECHNOLOGY, INC.

ZNF219 shRNA (m) Lentiviral Particles: sc-155658-V

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. ZNF219 (zinc-finger protein 219) is a 722 amino acid protein belonging to the Krüppel C_2H_2-type zinc-finger protein family. It is ubiquitously expressed and localizes to the nucleus. Containing six C_2H_2-type zinc fingers which function to bind DNA, ZNF219 is thought to be involved in transcriptional regulation. Specifically, ZNF219 has been identified as a transcriptional repressor that downregulates the transcription of the HMG-14 promoter.

REFERENCES

1. Payre, F. and Vincent, A. 1988. Finger proteins and DNA-specific recognition: distinct patterns of conserved amino acids suggest different evolutionary modes. FEBS Lett. 234: 245-250.
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3. Rosenfeld, R. and Margalit, H. 1993. Zinc fingers: conserved properties that can distinguish between spurious and actual DNA-binding motifs. J. Biomol. Struct. Dyn. 11: 557-570.
4. Sakai, T., Toyoda, A., Hashimoto, K. and Maeda, H. 2000. Isolation and characterization of a novel zinc-finger gene, ZNF219, and mapping to the human chromosome 14q11 region. DNA Res. 7: 137-141.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605036. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Sakai, T., Hino, K., Wada, S. and Maeda, H. 2003. Identification of the DNA binding specificity of the human ZNF219 protein and its function as a transcriptional repressor. DNA Res. 10: 155-165.
7. Liu, J. and Stormo, G.D. 2008. Context-dependent DNA recognition code for C_2H_2 zinc-finger transcription factors. Bioinformatics 24: 1850-1857.

CHROMOSOMAL LOCATION

Genetic locus: Zfp219 (mouse) mapping to 14 C2.

PRODUCT

ZNF219 shRNA (m) Lentiviral Particles are concentrated, transduction-ready viral particles containing a target-specific construct that encodes a 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 µl frozen stock containing 1.0 x 10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see ZNF219 siRNA (m): sc-155658 and ZNF219 shRNA Plasmid (m): sc-155658-SH as alternate gene silencing products.

PROTOCOLS

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

APPLICATIONS

ZNF219 shRNA (m) Lentiviral Particles is recommended for the inhibition of ZNF219 expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZNF219 gene expression knockdown using RT-PCR Primer: ZNF219 (m)-PR: sc-155658-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.