SANTA CRUZ BIOTECHNOLOGY, INC.

ZSCAN2 shRNA Plasmid (h): sc-89922-SH

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. Zinc finger and SCAN domain-containing protein 2 (ZSCAN2), also known as ZNF29, is a 613 amino acid member of the Krüppel C_2H_2-type zinc finger protein family. Localized to the nucleus, ZSCAN2 contains 14 C_2H_2-type zinc fingers at the carboxy terminus and one SCAN box domain, a leucine rich region of about 80 amino acids, at the amino terminus through which it is thought to be involved in DNA-binding and transcriptional regulation during the post-meiotic stages of spermatogenesis. Three isoforms of ZSCAN2 exist as a result of alternative splicing events.

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.
2. Thiesen, H.J. 1990. Multiple genes encoding zinc finger domains are expressed in human T cells. New Biol. 2: 363-374.
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. Abrink, M., Aveskogh, M. and Hellman, L. 1995. Isolation of cDNA clones for 42 different Krüppel-related zinc finger proteins expressed in the human monoblast cell line U-937. DNA Cell Biol. 14: 125-136.
5. Williams, A.J., Khachigian, L.M., Shows, T. and Collins, T. 1995. Isolation and characterization of a novel zinc-finger protein with transcription repressor activity. J. Biol. Chem. 270: 22143-22152.
6. Walter, L. and Günther, E. 2000. Physical mapping and evolution of the centromeric class I gene-containing region of the rat MHC. Immunogenetics 51: 829-837.
7. Sander, T.L., Stringer, K.F., Maki, J.L., Szauter, P., Stone, J.R. and Collins, T. 2003. The SCAN domain defines a large family of zinc finger transcription factors. Gene 310: 29-38.
8. Liu, J. and Stormo, G.D. 2008. Context-dependent DNA recognition code for C_2H_2 zinc-finger transcription factors. Bioinformatics 24: 1850-1857.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: ZSCAN2 (human) mapping to 15q25.2.

PRODUCT

ZSCAN2 shRNA Plasmid (h) is a pool of 2 target-specific lentiviral vector plasmids each encoding 19-25 nt (plus hairpin) shRNAs designed to knock down gene expression. Each plasmid contains a puromycin resistance gene for the selection of cells stably expressing shRNA. Each vial contains 20 µg of lyophilized shRNA plasmid DNA. Suitable for up to 20 transfections. Also see ZSCAN2 siRNA (h): sc-89922 and ZSCAN2 shRNA (h) Lentiviral Particles: sc-89922-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized shRNA plasmid DNA at 4° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at 4° C for short term storage or -80° C for long term storage. Avoid repeated freeze thaw cycles.

Resuspend lyophilized shRNA plasmid DNA in 200 µl of the deionized water provided. Resuspension of the shRNA plasmid DNA in 200 µl of deionized water makes a 0.1 µg/µl solution in a 10 mM Tris, 1 mM EDTA buffered solution.

APPLICATIONS

ZSCAN2 shRNA Plasmid (h) is recommended for the inhibition of ZSCAN2 expression in human cells.

SUPPORT REAGENTS

For optimal shRNA Plasmid transfection efficiency, Santa Cruz Biotechnology's shRNA Plasmid Transfection Reagent: sc-108061 (0.2 ml) and shRNA Plasmid Transfection Medium: sc-108062 (20 ml) are recommended. Control shRNAs are available as 20 µg lyophilized plasmid DNA. Each encodes a scrambled shRNA sequence that will not lead to the specific degradation of any known cellular mRNA. Control shRNA Plasmids include: sc-108060, sc-108065 and sc-108066.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZSCAN2 gene expression knockdown using RT-PCR Primer: ZSCAN2 (h)-PR: sc-89922-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.