SANTA CRUZ BIOTECHNOLOGY, INC.

ZSCAN4 siRNA (h): sc-97642

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. Zinc finger and SCAN domain-containing protein 4 (ZSCAN4), also known as ZNF494 is a 433 amino acid protein and is a member of the Krüppel C_2H_2-type zinc-finger protein family. Localized to the nucleus, ZSCAN4 contains four 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.

REFERENCES

1. Payre, F., et al. 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., et al. 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., et al. 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., et al. 1995. Isolation and characterization of a novel zinc-finger protein with transcription repressor activity. J. Biol. Chem. 270: 22143-22152.
6. Walter, L., et al. 2000. Physical mapping and evolution of the centromeric class I gene-containing region of the rat MHC. Immunogenetics 51: 829-837.

CHROMOSOMAL LOCATION

Genetic locus: ZSCAN4 (human) mapping to 19q13.43.

PRODUCT

ZSCAN4 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 ZSCAN4 shRNA Plasmid (h): sc-97642-SH and ZSCAN4 shRNA (h) Lentiviral Particles: sc-97642-V as alternate gene silencing products.

For independent verification of ZSCAN4 (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-97642A, sc-97642B and sc-97642C.

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 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

ZSCAN4 siRNA (h) is recommended for the inhibition of ZSCAN4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZSCAN4 gene expression knockdown using RT-PCR Primer: ZSCAN4 (h)-PR: sc-97642-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.