

ZSCAN16 siRNA (h): sc-95211

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 16 (ZSCAN16), also known as ZNF392 or ZNF435, is a 348 amino acid member of the Krüppel C₂H₂-type zinc-finger protein family. Localized to the nucleus, ZSCAN16 contains four C₂H₂-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. ZSCAN16 has been shown to repress reporter gene transcription, and overexpression of ZNF435 also suppressed the transcriptional activities of AP-1 μ . Because AP-1 μ is activated by MAPK-mediated phosphorylation, ZNF435 is thought to be involved in the MAPK pathway.

REFERENCES

1. Berg, J.M. 1988. Proposed structure for the zinc-binding domains from transcription factor IIIA and related proteins. *Proc. Natl. Acad. Sci. USA* 85: 99-102.
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. Gu, X., Zheng, M., Fei, X., Yang, Z., Li, F., Ji, C., Xie, Y. and Mao, Y. 2007. ZNF435, a novel human SCAN-containing zinc finger protein, inhibits AP-1-mediated transcriptional activation. *Mol. Cells* 23: 316-322.

CHROMOSOMAL LOCATION

Genetic locus: ZSCAN16 (human) mapping to 6p22.1.

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.

PRODUCT

ZSCAN16 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZSCAN16 shRNA Plasmid (h): sc-95211-SH and ZSCAN16 shRNA (h) Lentiviral Particles: sc-95211-V as alternate gene silencing products.

For independent verification of ZSCAN16 (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-95211A, sc-95211B and sc-95211C.

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

ZSCAN16 siRNA (h) is recommended for the inhibition of ZSCAN16 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZSCAN16 gene expression knockdown using RT-PCR Primer: ZSCAN16 (h)-PR: sc-95211-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.