

ZKSCAN3 siRNA (m): sc-155625

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. ZKSCAN3 (zinc finger protein with KRAB and SCAN domains 3), also known as ZNF306/309 or ZNF47 homolog, is a 583 amino acid protein that may be involved in the regulation of transcription. Belonging to the Krüppel C₂H₂-type zinc-finger protein family, ZKSCAN3 contains seven C₂H₂-type zinc fingers, one KRAB domain and one SCAN box domain. Over-expression of ZKSCAN3 has been found in colorectal tumor samples, with higher levels of expression found in invasive tumor types compared with non-invasive tumors. This evidence also coincides with the fact that the chromosomal region of the gene encoding ZKSCAN3 is found to be amplified in colorectal cancer. Knockdown of the mRNA encoding ZKSCAN3 results in impaired anchorage-independent growth and orthotopic tumor growth in two independent colon cancer cell lines.

REFERENCES

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2. Margolin, J.F., et al. 1994. Krüppel-associated boxes are potent transcriptional repression domains. *Proc. Natl. Acad. Sci. USA* 91: 4509-4513.
3. Petroni, D., et al. 1998. Computer sequence analysis of human highly conserved zinc finger modules. *DNA Seq.* 9: 163-169.
4. Sander, T.L., et al. 2003. The SCAN domain defines a large family of zinc finger transcription factors. *Gene* 310: 29-38.
5. Edelstein, L.C. and Collins, T. 2005. The SCAN domain family of zinc finger transcription factors. *Gene* 359: 1-17.
6. Ma, X., et al. 2007. Identification of five human novel genes associated with cell proliferation by cell-based screening from an expressed cDNA ORF library. *Life Sci.* 81: 1141-1151.
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CHROMOSOMAL LOCATION

Genetic locus: Zkscan3 (mouse) mapping to 13 A3.1.

PRODUCT

ZKSCAN3 siRNA (m) 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 ZKSCAN3 shRNA Plasmid (m): sc-155625-SH and ZKSCAN3 shRNA (m) Lentiviral Particles: sc-155625-V as alternate gene silencing products.

For independent verification of ZKSCAN3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-155625A, sc-155625B and sc-155625C.

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

ZKSCAN3 siRNA (m) is recommended for the inhibition of ZKSCAN3 expression in mouse 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 ZKSCAN3 gene expression knockdown using RT-PCR Primer: ZKSCAN3 (m)-PR: sc-155625-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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