SANTA CRUZ BIOTECHNOLOGY, INC.

ZKSCAN1 siRNA (h): sc-89776

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. A member of the Krüppel C_2H_2-type zinc-finger protein family, ZKSCAN1 (zinc finger with KRAB and SCAN domains 1), also known as KOX18, ZNF36, PHZ-37 or ZNF139, is a 563 amino acid nuclear protein that may be involved in the regulation of transcription. ZKSCAN1 contains six C_2H_2-type zinc fingers, one KRAB domain and one SCAN box domain. Many KRAB domain containing proteins have been shown to function as transcription repressors, suggesting a possible function of ZKSCAN1. The gene encoding ZKSCAN1 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

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2. Constantinou-Deltas, C.D., et al. 1992. The identification and characterization of KRAB-domain-containing zinc finger proteins. Genomics 12: 581-589.
3. Margolin, J.F., et al. 1994. Krüppel-associated boxes are potent transcriptional repression domains. Proc. Natl. Acad. Sci. USA 91: 4509-4513.
4. Witzgall, R., et al. 1994. The Krüppel-associated box-A (KRAB-A) domain of zinc finger proteins mediates transcriptional repression. Proc. Natl. Acad. Sci. USA 91: 4514-4518.
5. Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 63-70.
6. Dreyer, S.D., et al. 1999. Isolation, characterization, and mapping of a zinc finger gene, ZFP95, containing both a SCAN box and an alternatively spliced KRAB A domain. Genomics 62: 119-122.

CHROMOSOMAL LOCATION

Genetic locus: ZKSCAN1 (human) mapping to 7q22.1.

PRODUCT

ZKSCAN1 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 ZKSCAN1 shRNA Plasmid (h): sc-89776-SH and ZKSCAN1 shRNA (h) Lentiviral Particles: sc-89776-V as alternate gene silencing products.

For independent verification of ZKSCAN1 (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-89776A, sc-89776B and sc-89776C.

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

ZKSCAN1 siRNA (h) is recommended for the inhibition of ZKSCAN1 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 ZKSCAN1 gene expression knockdown using RT-PCR Primer: ZKSCAN1 (h)-PR: sc-89776-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.

PROTOCOLS

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