



ZNF589 siRNA (h): sc-78092

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. ZNF589 (zinc finger protein 589), also known as SZF1 or stem cell zinc finger protein 1, is a 364 amino acid protein that plays a role in the differentiation of hematopoietic stem cells, and may act as a repressor of DNA binding-dependent transcription. ZNF589 belongs to the Krüppel C₂H₂-type zinc-finger protein family, localizes to nucleus, and contains four C₂H₂-type zinc fingers and one KRAB domain. As a result of alternative splicing, three ZNF589 isoforms exist; while the expression of ZNF589 isoform 1 has not been fully characterized, isoform 2 (also known as SZF1-2) has been found to be ubiquitously expressed and isoform 3 (also known as SZF1-1) is only found in CD34⁺ cells. The gene encoding ZNF589 maps to human chromosome 3p21.31.

REFERENCES

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- Liu, C., et al. 1999. SZF1: a novel KRAB-zinc finger gene expressed in CD34⁺ stem/progenitor cells. *Exp. Hematol.* 27: 313-325.
- Peng, H., et al. 2002. A common DNA-binding site for SZF1 and the BRCA1-associated zinc finger protein, ZBRK1. *Cancer Res.* 62: 3773-3781.
- Huntley, S., et al. 2006. A comprehensive catalog of human KRAB-associated zinc finger genes: insights into the evolutionary history of a large family of transcriptional repressors. *Genome Res.* 16: 669-677.
- Tian, C.Y., et al. 2006. Progress in the study of KRAB zinc finger protein. *Yi Chuan* 28: 1451-1456.

CHROMOSOMAL LOCATION

Genetic locus: ZNF589 (human) mapping to 3p21.31.

PRODUCT

ZNF589 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 ZNF589 shRNA Plasmid (h): sc-78092-SH and ZNF589 shRNA (h) Lentiviral Particles: sc-78092-V as alternate gene silencing products.

For independent verification of ZNF589 (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-78092A, sc-78092B and sc-78092C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

ZNF589 siRNA (h) is recommended for the inhibition of ZNF589 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 ZNF589 gene expression knockdown using RT-PCR Primer: ZNF589 (h)-PR: sc-78092-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Li, X., et al. 2018. KRAB-ZFP repressors enforce quiescence of oncogenic human herpesviruses. *J. Virol.* 92 pii: e00298-18.

PROTOCOLS

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