SANTA CRUZ BIOTECHNOLOGY, INC.

ZFP57 siRNA (h): sc-95179

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. ZFP57 (zinc-finger protein 57), also known as ZNF698, is a 452 amino acid protein that contains one KRAB domain and seven C_2H_2-type zinc fingers and is a member of the Krüppel C_2H_2-type zinc-finger protein family. Localized to the nucleus, ZFP57 functions as a transcriptional repressor that inhibits the expression of Schwann cell-specific proteins, thereby playing a role in the development of the peripheral nervous system. ZFP57 exists as two isoforms that are produced from alternative splicing events.

REFERENCES

1. Okazaki, S., et al. 1994. A novel nuclear protein with zinc fingers down-regulated during early mammalian cell differentiation. J. Biol. Chem. 269: 6900-6907.
2. 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.
3. Williams, A.J., et al. 1999. The zinc finger-associated SCAN box is a conserved oligomerization domain. Mol. Cell. Biol. 19: 8526-8535.
4. Shannon, M., et al. 2003. Differential expansion of zinc-finger transcription factor loci in homologous human and mouse gene clusters. Genome Res. 13: 1097-1110.
5. Englbrecht, C.C., et al. 2004. Conservation, diversification and expansion of C_2H_2 zinc-finger proteins in the *Arabidopsis thaliana* genome. BMC Genomics 5: 39.
6. Alonso, M.B., et al. 2004. Identification and characterization of ZFP-57, a novel zinc finger transcription factor in the mammalian peripheral nervous system. J. Biol. Chem. 279: 25653-25664.
7. Mackay, D.J., et al. 2008. Hypomethylation of multiple imprinted loci in individuals with transient neonatal diabetes is associated with mutations in ZFP57. Nat. Genet. 40: 949-951.

CHROMOSOMAL LOCATION

Genetic locus: ZFP57 (human) mapping to 6p22.1.

PRODUCT

ZFP57 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 ZFP57 shRNA Plasmid (h): sc-95179-SH and ZFP57 shRNA (h) Lentiviral Particles: sc-95179-V as alternate gene silencing products.

For independent verification of ZFP57 (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-95179A, sc-95179B and sc-95179C.

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

ZFP57 siRNA (h) is recommended for the inhibition of ZFP57 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 ZFP57 gene expression knockdown using RT-PCR Primer: ZFP57 (h)-PR: sc-95179-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.