

ZNF593 siRNA (m): sc-155758

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. ZNF593 (zinc finger protein 593), also known as ZT86, is a 134 amino acid protein that contains one C₂H₂-type zinc finger and belongs to the ZNF593/BUD20 C₂H₂-type zinc-finger protein family. Localizing to the nucleus, ZNF593 is ubiquitously expressed, with high levels of expression found in spleen, prostate, testis, small intestine and colon. ZNF593 negatively regulates Oct-2 DNA binding activity and transcriptional regulatory activity. The gene encoding ZNF593 maps to human chromosome 1p36.11 and mouse chromosome 4 D3.

REFERENCES

1. Bray, P., Lichter, P., Thiesen, H.J., Ward, D.C. and Dawid, I.B. 1991. Characterization and mapping of human genes encoding zinc finger proteins. *Proc. Natl. Acad. Sci. USA* 88: 9563-9567.
2. Lichter, P., Bray, P., Ried, T., Dawid, I.B. and Ward, D.C. 1992. Clustering of C₂H₂ zinc finger motif sequences within telomeric and fragile site regions of human chromosomes. *Genomics* 13: 999-1007.
3. Terunuma, A., Shiba, K. and Noda, T. 1997. A novel genetic system to isolate a dominant negative effector on DNA-binding activity of Oct-2. *Nucleic Acids Res.* 25: 1984-1990.
4. Shannon, M., Hamilton, A.T., Gordon, L., Branscomb, E. and Stubbs, L. 2003. Differential expansion of zinc-finger transcription factor loci in homologous human and mouse gene clusters. *Genome Res.* 13: 1097-1110.
5. Huntley, S., Baggott, D.M., Hamilton, A.T., Tran-Gyamfi, M., Yang, S., Kim, J., Gordon, L., Branscomb, E. and Stubbs, L. 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.
6. Hayes, P.L., Lytle, B.L., Volkman, B.F. and Peterson, F.C. 2008. The solution structure of ZNF593 from Homo sapiens reveals a zinc finger in a predominantly unstructured protein. *Protein Sci.* 17: 571-576.

CHROMOSOMAL LOCATION

Genetic locus: Zfp593 (mouse) mapping to 4 D3.

PRODUCT

ZNF593 siRNA (m) is a target-specific 19-25 nt siRNA 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 ZNF593 shRNA Plasmid (m): sc-155758-SH and ZNF593 shRNA (m) Lentiviral Particles: sc-155758-V as alternate gene silencing products.

PROTOCOLS

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

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

ZNF593 siRNA (m) is recommended for the inhibition of ZNF593 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 ZNF593 gene expression knockdown using RT-PCR Primer: ZNF593 (m)-PR: sc-155758-PR (20 μ l). 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.