



# ZNF253 siRNA (h): sc-97581

## 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 Kruppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. ZNF253, also known as bone marrow zinc finger 1 (BMZF-1) or zinc finger protein 411, is a 275 amino acid protein belonging to the Kruppel C<sub>2</sub>H<sub>2</sub>-type zinc-finger protein family. Localized to the nucleus, ZNF253 contains one KRAB domain and three C<sub>2</sub>H<sub>2</sub>-type zinc fingers. Due to the presence of these domains, ZNF253 may be involved in transcriptional regulation. ZNF253 is also thought to have transcriptional repression activity. ZNF253 is expressed in immature erythroid cell lines and in bone marrow.

## REFERENCES

1. Pengue, G., Calabrò, V., Bartoli, P.C., Pagliuca, A. and Lania, L. 1994. Repression of transcriptional activity at a distance by the evolutionarily conserved KRAB domain present in a subfamily of zinc finger proteins. *Nucleic Acids Res.* 22: 2908-2914.
2. Margolin, J.F., Friedman, J.R., Meyer, W.K., Vissing, H., Thiesen, H.J. and Rauscher, F.J. 1994. Kruppel-associated boxes are potent transcriptional repression domains. *Proc. Natl. Acad. Sci. USA* 91: 4509-4513.
3. Witzgall, R., O'Leary, E., Leaf, A., Onaldi, D. and Bonventre, J.V. 1994. The Kruppel-associated box-A (KRAB-A) domain of zinc finger proteins mediates transcriptional repression. *Proc. Natl. Acad. Sci. USA* 91: 4514-4518.
4. Vissing, H., Meyer, W.K., Aagaard, L., Tommerup, N. and Thiesen, H.J. 1995. Repression of transcriptional activity by heterologous KRAB domains present in zinc finger proteins. *FEBS Lett.* 369: 153-157.
5. Han, Z.G., Zhang, Q.H., Ye, M., Kan, L.X., Gu, B.W., He, K.L., Shi, S.L., Zhou, J., Fu, G., Mao, M., Chen, S.J., Yu, L. and Chen, Z. 1999. Molecular cloning of six novel Kruppel-like zinc finger genes from hematopoietic cells and identification of a novel transregulatory domain KRN. *J. Biol. Chem.* 274: 35741-35748.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606954. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Urrutia, R. 2003. KRAB-containing zinc-finger repressor proteins. *Genome Biol.* 4: 231.
8. 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.

## CHROMOSOMAL LOCATION

Genetic locus: ZNF253 (human) mapping to 19p13.11.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

ZNF253 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZNF253 shRNA Plasmid (h): sc-97581-SH and ZNF253 shRNA (h) Lentiviral Particles: sc-97581-V as alternate gene silencing products.

For independent verification of ZNF253 (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-97581A, sc-97581B and sc-97581C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ZNF253 siRNA (h) is recommended for the inhibition of ZNF253 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  $\mu$ M in 66  $\mu$ 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 ZNF253 gene expression knockdown using RT-PCR Primer: ZNF253 (h)-PR: sc-97581-PR (20  $\mu$ 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.