



# ZNF681 siRNA (h): sc-97673

## 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. ZNF681 (zinc finger protein 681) is a 576 amino acid protein that belongs to the Krüppel C<sub>2</sub>H<sub>2</sub>-type zinc-finger protein family and contains 16 C<sub>2</sub>H<sub>2</sub>-type zinc fingers. Localizing to nucleus, ZNF681 is thought to play a role in transcriptional regulation and is encoded by a gene that localizes to human chromosome 19p12.

## REFERENCES

1. Witzgall, R., O'Leary, E., Leaf, A., Onaldi, D. and Bonventre, J.V. 1994. The Krüppel-associated box-A (KRAB-A) domain of zinc finger proteins mediates transcriptional repression. *Proc. Natl. Acad. Sci. USA* 91: 4514-4518.
2. Mark, C., Abrink, M. and Hellman, L. 1999. Comparative analysis of KRAB zinc finger proteins in rodents and man: evidence for several evolutionarily distinct subfamilies of KRAB zinc finger genes. *DNA Cell Biol.* 18: 381-396.
3. Williams, A.J., Blacklow, S.C. and Collins, T. 1999. The zinc finger-associated SCAN box is a conserved oligomerization domain. *Mol. Cell Biol.* 19: 8526-8535.
4. Peng, H., Begg, G.E., Harper, S.L., Friedman, J.R., Speicher, D.W. and Rauscher, F.J. 2000. Biochemical analysis of the Krüppel-associated box (KRAB) transcriptional repression domain. *J. Biol. Chem.* 275: 18000-18010.
5. Urrutia, R. 2003. KRAB-containing zinc-finger repressor proteins. *Genome Biol.* 4: 231.
6. 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.
7. Tian, C.Y., Zhang, L.Q. and He, F.C. 2006. Progress in the study of KRAB zinc finger protein. *Yi Chuan* 28: 1451-1456.

## CHROMOSOMAL LOCATION

Genetic locus: ZNF681 (human) mapping to 19p12.

## PRODUCT

ZNF681 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 ZNF681 shRNA Plasmid (h): sc-97673-SH and ZNF681 shRNA (h) Lentiviral Particles: sc-97673-V as alternate gene silencing products.

For independent verification of ZNF681 (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-97673A, sc-97673B and sc-97673C.

## 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

ZNF681 siRNA (h) is recommended for the inhibition of ZNF681 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 ZNF681 gene expression knockdown using RT-PCR Primer: ZNF681 (h)-PR: sc-97673-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.

## PROTOCOLS

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