SANTA CRUZ BIOTECHNOLOGY, INC.

ZNF136 siRNA (h): sc-97668

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. ZNF136 is a transcriptional regulator belonging to the Kruppel C_2H_2-type zinc-finger protein family. It is a ubiquitously expressed protein, localizes to the nucleus and contains 14 C_2H_2-type zinc fingers and 1 KRAB A-domain. Alone, ZNF136 functions as a weak repressor; however, when fused with a heterologous KRAB B-domain containing protein, such as ZNF10, ZNF136 functions as a potent repressor.

REFERENCES

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2. 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.
3. 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.
4. Tommerup, N. and Vissing, H. 1995. Isolation and fine mapping of 16 novel human zinc finger-encoding cDNAs identify putative candidate genes for developmental and malignant disorders. Genomics 27: 259-264.
5. 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.
6. Urrutia, R. 2003. KRAB-containing zinc-finger repressor proteins. Genome Biol. 4: 231-231.
7. Nikulina, K., Bodeker, M., Warren, J., Matthews, P. and Margolis, T.P. 2006. A novel Kruppel related factor consisting of only a KRAB domain is expressed in the murine trigeminal ganglion. Biochem. Biophys. Res. Commun. 348: 839-849.

CHROMOSOMAL LOCATION

Genetic locus: ZNF136 (human) mapping to 19p13.2.

PRODUCT

ZNF136 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 ZNF136 shRNA Plasmid (h): sc-97668-SH and ZNF136 shRNA (h) Lentiviral Particles: sc-97668-V as alternate gene silencing products.

For independent verification of ZNF136 (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-97668A, sc-97668B and sc-97668C.

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

ZNF136 siRNA (h) is recommended for the inhibition of ZNF136 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.

GENE EXPRESSION MONITORING

ZNF136 (ZNF1H5D11): sc-81133 is recommended as a control antibody for monitoring of ZNF136 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZNF136 gene expression knockdown using RT-PCR Primer: ZNF136 (h)-PR: sc-97668-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.