SANTA CRUZ BIOTECHNOLOGY, INC.

ZNF276 siRNA (h): sc-93071

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. ZNF276 is a 614 amino acid protein containing five C_2H_2-type zinc fingers and one zinc finger associated (ZAD) domain. Due to a loss of heterozygosity at the chromosomal location of the gene encoding ZNF276 in sporadic breast cancers, the ZNF276 gene has been targeted as a possible breast cancer tumor suppressor. The FANCA gene, which encodes a DNA repair protein, is situated at the same chromosomal location as the ZNF276 gene, suggesting a possible involvement of ZNF276 in the progression of Fanconi anemia, an autosomal recessive disorder which is caused by mutations in the gene encoding FANCA. There are two isoforms of ZNF276 that exist as a result of an alternative splicing event.

REFERENCES

1. Payre, F. and Vincent, A. 1988. Finger proteins and DNA-specific recognition: distinct patterns of conserved amino acids suggest different evolutionary modes. FEBS Lett. 234: 245-250.
2. Brenner, A.J. and Aldaz, C.M. 1997. The genetics of sporadic breast cancer. Prog. Clin. Biol. Res. 396: 63-82.
3. Nakamura, A., et al. 1999. Four novel mutations of the Fanconi anemia group A gene (FAA) in Japanese patients. J. Hum. Genet. 44: 48-51.
4. Wong, J.C., et al. 2000. Cloning and analysis of the mouse Fanconi anemia group A cDNA and an overlapping penta zinc finger cDNA. Genomics 67: 273-283.
5. Chung, H.R., et al. 2002. Genomic expansion and clustering of ZAD-containing C_2H_2 zinc-finger genes in *Drosophila*. EMBO Rep. 3: 1158-1162.
6. Wong, J.C., et al. 2003. Cloning and mutation analysis of ZFP276 as a candidate tumor suppressor in breast cancer. J. Hum. Genet. 48: 668-671.
7. Jauch, R., et al. 2003. The zinc finger-associated domain of the *Drosophila* transcription factor grauzone is a novel zinc-coordinating protein-protein interaction module. Structure 11: 1393-1402.
8. Imami, K., et al. 2008. Automated phosphoproteome analysis for cultured cancer cells by two-dimensional nanoLC-MS using a calcined titania/C18 biphasic column. Anal. Sci. 24: 161-166.

CHROMOSOMAL LOCATION

Genetic locus: ZNF276 (human) mapping to 16q24.3.

PRODUCT

ZNF276 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 ZNF276 shRNA Plasmid (h): sc-93071-SH and ZNF276 shRNA (h) Lentiviral Particles: sc-93071-V as alternate gene silencing products.

For independent verification of ZNF276 (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-93071A, sc-93071B and sc-93071C.

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

ZNF276 siRNA (h) is recommended for the inhibition of ZNF276 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

ZNF276 (G-9): sc-373768 is recommended as a control antibody for monitoring of ZNF276 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZNF276 gene expression knockdown using RT-PCR Primer: ZNF276 (h)-PR: sc-93071-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.