SANTA CRUZ BIOTECHNOLOGY, INC.

ZNF76 siRNA (h): sc-77005

BACKGROUND

ZNF76, also known as ZNF523 or Zfp523, is a transcriptional repressor expressed in the testis. It is the human homolog of the *Xenopus* Staf protein (selenocysteine tRNA gene transcription-activating factor) known to regulate the genes encoding small nuclear RNA and selenocysteine tRNA. ZNF76 localizes to the nucleus and exerts an inhibitory function on p53-mediated transactivation. ZNF76 specifically targets TFIID (TATA-binding protein). The interaction with TFIID occurs through both its N and C termini. The transcriptional repression activity of ZNF76 is predominantly regulated by lysine modifications, acetylation and sumoylation. ZNF76 is sumoylated by PIAS 1 and is acetylated by p300. Acetylation leads to the loss of sumoylation and a weakened TFIID interaction. ZNF76 can be deacetylated by HDAC1. In addition to lysine modifications, ZNF76 activity is also controlled by splice variants. Two isoforms exist due to alternative splicing. These isoforms vary in their ability to interact with TFIID.

REFERENCES

1. Ragoussis, J., Senger, G., Mockridge, I., Sanseau, P., Ruddy, S., Dudley, K., Sheer, D. and Trowsdale, J. 1992. A testis-expressed Zn finger gene (ZNF76) in human 6p21.3 centromeric to the MHC is closely linked to the human homolog of the t-complex gene tcp-11. Genomics 14: 673-679.
2. Schuster, C., Myslinski, E., Krol, A. and Carbon, P. 1995. Staf, a novel zinc finger protein that activates the RNA polymerase III promoter of the selenocysteine tRNA gene. EMBO J. 14: 3777-3787.
3. Myslinski, E., Krol, A. and Carbon, P. 1998. ZNF76 and ZNF143 are two human homologs of the transcriptional activator Staf. J. Biol. Chem. 273: 21998-22006.
4. Tripodis, N., Palmer, S., Phillips, S., Milne, S., Beck, S. and Ragoussis, J. 2000. Construction of a high-resolution 2.5-Mb transcript map of the human 6p21.2-6p21.3 region immediately centromeric of the major histocompatibility complex. Genome Res. 10: 454-472.
5. Kubota, H., Yokota, S., Yanagi, H. and Yura, T. 2000. Transcriptional regulation of the mouse cytosolic chaperonin subunit gene Ccta/t-complex polypeptide 1 by selenocysteine tRNA gene transcription activating factor family zinc finger proteins. J. Biol. Chem. 275: 28641-28648.

CHROMOSOMAL LOCATION

Genetic locus: ZNF76 (human) mapping to 6p21.31.

PRODUCT

ZNF76 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 ZNF76 shRNA Plasmid (h): sc-77005-SH and ZNF76 shRNA (h) Lentiviral Particles: sc-77005-V as alternate gene silencing products.

For independent verification of ZNF76 (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-77005A, sc-77005B and sc-77005C.

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

ZNF76 siRNA (h) is recommended for the inhibition of ZNF76 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

ZNF76 (F-12): sc-374646 is recommended as a control antibody for monitoring of ZNF76 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 ZNF76 gene expression knockdown using RT-PCR Primer: ZNF76 (h)-PR: sc-77005-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.