

ZNF174 siRNA (h): sc-93459

BACKGROUND

ZNF174, also known as ZSCAN8 or AW-1, is a transcriptional repressor that belongs to the Krüppel C₂H₂-type zinc-finger protein family. It is expressed in a number of different tissues, including small intestine, prostate, colon, spleen, pancreas, skeletal muscle, brain, heart, kidney and thymus, but it is most predominantly found in adult ovary and testis. ZNF174 specifically acts to repress the promoter activities of PDGF-B and TGFβ1. ZNF174 localizes to the nucleus and contains three C₂H₂-type zinc fingers at the C-terminus and one SCAN domain near the N-terminus. SCAN domains are found in a number of zinc finger proteins and are characterized by a conserved region of 84 residues. The SCAN domain seemingly regulates the association of proteins containing SCAN domains into noncovalent complexes and may also function as an underlying mechanism in selective oligomerization of these proteins.

REFERENCES

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- Schumacher, C., et al. 2000. The SCAN domain mediates selective oligomerization. *J. Biol. Chem.* 275: 17173-17179.
- Stone, J.R., et al. 2002. The SCAN domain of ZNF174 is a dimer. *J. Biol. Chem.* 277: 5448-5452.
- Sander, T.L., et al. 2003. The SCAN domain defines a large family of zinc finger transcription factors. *Gene* 310: 29-38.
- Ivanov, D., et al. 2005. Mammalian SCAN domain dimer is a domain-swapped homologue of the HIV capsid C-terminal domain. *Mol. Cell* 17: 137-143.
- Edelstein, L.C. and Collins, T. 2005. The SCAN domain family of zinc finger transcription factors. *Gene* 359: 1-17.
- Peng, H., et al. 2007. The structurally disordered KRAB repression domain is incorporated into a protease resistant core upon binding to KAP-1-RBCC domain. *J. Mol. Biol.* 370: 269-289.

CHROMOSOMAL LOCATION

Genetic locus: ZNF174 (human) mapping to 16p13.3.

PRODUCT

ZNF174 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 ZNF174 shRNA Plasmid (h): sc-93459-SH and ZNF174 shRNA (h) Lentiviral Particles: sc-93459-V as alternate gene silencing products.

For independent verification of ZNF174 (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-93459A, sc-93459B and sc-93459C.

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

ZNF174 siRNA (h) is recommended for the inhibition of ZNF174 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

ZNF174 (C-10): sc-398744 is recommended as a control antibody for monitoring of ZNF174 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 ZNF174 gene expression knockdown using RT-PCR Primer: ZNF174 (h)-PR: sc-93459-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.