

ZDHHC22 siRNA (h): sc-92191

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. ZDHHC22 (zinc finger, DHHC domain containing 22) is a 263 amino acid multi-pass membrane protein that contains one DHHC-type zinc finger and is thought to function as a palmitoyltransferase, catalyzing the transformation of palmitoyl-CoA and a cysteine-conjugated protein to an S-palmitoyl protein and free CoA. ZDHHC22 is considered a potential marker for early detection of colon neoplasia. The gene encoding ZDHHC22 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α 1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. Putilina, T., et al. 1999. The DHHC domain: a new highly conserved cysteine-rich motif. *Mol. Cell. Biochem.* 195: 219-226.
2. Roth, A.F., et al. 2002. The yeast DHHC cysteine-rich domain protein Akr1p is a palmitoyl transferase. *J. Cell Biol.* 159: 23-28.
3. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. *Nature* 421: 601-607.
4. Ohno, Y., et al. 2006. Intracellular localization and tissue-specific distribution of human and yeast DHHC cysteine-rich domain-containing proteins. *Biochim. Biophys. Acta* 1761: 474-483.
5. Mitchell, D.A., et al. 2006. Protein palmitoylation by a family of DHHC protein S-acyltransferases. *J. Lipid Res.* 47: 1118-1127.
6. Yamamoto, Y., et al. 2007. Gain of 5p15.33 is associated with progression of bladder cancer. *Oncology* 72: 132-138.

CHROMOSOMAL LOCATION

Genetic locus: ZDHHC22 (human) mapping to 14q24.3.

PRODUCT

ZDHHC22 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZDHHC22 shRNA Plasmid (h): sc-92191-SH and ZDHHC22 shRNA (h) Lentiviral Particles: sc-92191-V as alternate gene silencing products.

For independent verification of ZDHHC22 (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-92191A, sc-92191B and sc-92191C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ZDHHC22 siRNA (h) is recommended for the inhibition of ZDHHC22 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

ZDHHC22 (C-5): sc-514005 is recommended as a control antibody for monitoring of ZDHHC22 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ZDHHC22 gene expression knockdown using RT-PCR Primer: ZDHHC22 (h)-PR: sc-92191-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.