

# ZDHHC23 siRNA (h): sc-77882

## 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. ZDHHC23 (zinc finger, DHHC domain containing 23), also known as NIDD (NOS1-interacting DHHC domain-containing protein with dendritic mRNA), is a 409 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. ZDHHC23 may play a role in NOS1 regulation and targets the synaptic membrane. By regulating the enzymatic activity of NOS1, ZDHHC23 may effect different pathological conditions including nerve regeneration, neuron loss or survival and pain processing.

## 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 palmitoyltransferase. *J. Cell Biol.* 159: 23-28.
3. Saitoh, F., et al. 2004. NIDD, a novel DHHC-containing protein, targets neuronal nitric-oxide synthase (nNOS) to the synaptic membrane through a PDZ-dependent interaction and regulates nNOS activity. *J. Biol. Chem.* 279: 29461-29468.
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. Cheng, C., et al. 2007. Effect of peripheral axotomy on gene expression of NIDD in rat neural tissues. *J. Mol. Neurosci.* 32: 199-206.
7. Chen, M.L., et al. 2008. Altered gene expression of NIDD in dorsal root ganglia and spinal cord of rats with neuropathic or inflammatory pain. *J. Mol. Histol.* 39: 125-133.

## CHROMOSOMAL LOCATION

Genetic locus: ZDHHC23 (human) mapping to 3q13.31.

## PRODUCT

ZDHHC23 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZDHHC23 shRNA Plasmid (h): sc-77882-SH and ZDHHC23 shRNA (h) Lentiviral Particles: sc-77882-V as alternate gene silencing products.

For independent verification of ZDHHC23 (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-77882A, sc-77882B and sc-77882C.

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

## APPLICATIONS

ZDHHC23 siRNA (h) is recommended for the inhibition of ZDHHC23 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  $\mu$ M in 66  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZDHHC23 gene expression knockdown using RT-PCR Primer: ZDHHC23 (h)-PR: sc-77882-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.