

# HNK-1ST siRNA (h): sc-60794

## BACKGROUND

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs and xenobiotic compounds. These cytosolic enzymes differ in their tissue distributions and substrate specificities. HNK-1ST, also designated carbohydrate sulfotransferase 10 (CHST10), is a Golgi-associated sulfotransferase that functions in the biosynthesis of HNK-1, a neuronally expressed carbohydrate that harbors a sulfoglucuronyl residue. HNK-1ST and glucuronosyltransferase P (GLCATP) expression is necessary to form the HNK-1 carbohydrate epitope on NCAM, a cell adhesion molecule. HNK-1ST demonstrates prominent expression in adult and fetal brain and adult testis and ovary. The deduced 356 amino acid type II transmembrane protein contains three potential N-glycosylation sites and a conserved RDP sequence that is also present in other Golgi-resident sulfotransferases.

## REFERENCES

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2. Chou, D.K., et al. 2002. HNK-1 sulfotransferase null mice express glucuronyl glycoconjugates and show normal cerebellar granule neuron migration *in vivo* and *in vitro*. *J. Neurochem.* 82: 1239-1251.
3. Kang, H.G., et al. 2002. Molecular cloning and characterization of chondroitin-4-O-sulfotransferase-3. A novel member of the HNK-1 family of sulfotransferases. *J. Biol. Chem.* 277: 34766-34772.
4. Senn, C., et al. 2002. Mice deficient for the HNK-1 sulfotransferase show alterations in synaptic efficacy and spatial learning and memory. *Mol. Cell. Neurosci.* 20: 712-729.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 151290. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Kakuda, S., et al. 2004. Mice deficient in the HNK-1 carbohydrate exhibit impaired learning and memory. *Tanpakushitsu Kakusan Koso* 49: 2431-2436.
7. Kakuda, S., et al. 2005. Different acceptor specificities of two glucuronyl-transferases involved in the biosynthesis of HNK-1 carbohydrate. *Glycobiology* 15: 203-210.
8. Tagawa, H., et al. 2005. A non-sulfated form of the HNK-1 carbohydrate is expressed in mouse kidney. *J. Biol. Chem.* 280: 23876-23883.
9. Kizuka, Y., et al. 2006. Physical and functional association of glucuronyl-transferases and sulfotransferase involved in HNK-1 biosynthesis. *J. Biol. Chem.* 281: 13644-13651.

## CHROMOSOMAL LOCATION

Genetic locus: CHST10 (human) mapping to 2q11.2.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

HNK-1ST 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 HNK-1ST shRNA Plasmid (h): sc-60794-SH and HNK-1ST shRNA (h) Lentiviral Particles: sc-60794-V as alternate gene silencing products.

For independent verification of HNK-1ST (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-60794A, sc-60794B and sc-60794C.

## 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

HNK-1ST siRNA (h) is recommended for the inhibition of HNK-1ST 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 HNK-1ST gene expression knockdown using RT-PCR Primer: HNK-1ST (h)-PR: sc-60794-PR (20  $\mu$ l). 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.