

# HNK-1ST (E-20): sc-49034

## 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 3 potential N-glycosylation sites and a conserved RDP sequence that is also present in other Golgi-resident sulfotransferases.

## REFERENCES

1. Rollenhagen, A., et al. 2001. Immunocytological localization of the HNK-1 carbohydrate in murine cerebellum, hippocampus and spinal cord using monoclonal antibodies with different epitope specificities. *J. Neurocytol.* 30: 337-351.
2. 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.
3. 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.
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™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 151290. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: CHST10 (human) mapping to 2q11.2; Chst10 (mouse) mapping to 1 B.

## SOURCE

HNK-1ST (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HNK-1ST of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49034 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

HNK-1ST (E-20) is recommended for detection of HNK-1ST of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HNK-1ST (E-20) is also recommended for detection of HNK-1ST in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HNK-1ST siRNA (h): sc-60794, HNK-1ST siRNA (m): sc-60795, HNK-1ST shRNA Plasmid (h): sc-60794-SH, HNK-1ST shRNA Plasmid (m): sc-60795-SH, HNK-1ST shRNA (h) Lentiviral Particles: sc-60794-V and HNK-1ST shRNA (m) Lentiviral Particles: sc-60795-V.

Molecular Weight of HNK-1ST: 42 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, Ramos cell lysate: sc-2216 or SK-N-MC cell lysate: sc-2237.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Karaoz, E., et al. 2009. Characterization of mesenchymal stem cells from rat bone marrow: ultrastructural properties, differentiation potential and immunophenotypic markers. *Histochem. Cell Biol.* 132: 533-546.
2. Karaoz, E., et al. 2009. Pancreatic islet-derived stem cells may have a key role in type 1 diabetes pathogenesis. *Cell Tissue Biol. Res.* 2: 8-22.
3. Karaoz, E., et al. 2010. Isolation and characterization of stem cells from pancreatic islet: pluripotency, differentiation potential and ultrastructural characteristics. *Cytotherapy* 12: 288-302.
4. Karaöz, E., et al. 2011. A comprehensive characterization study of human bone marrow mscs with an emphasis on molecular and ultrastructural properties. *J. Cell. Physiol.* 226: 1367-1382.
5. Adas, G., et al. 2011. Mesenchymal stem cells improve the healing of ischemic colonic anastomoses (experimental study). *Langenbecks Arch. Surg.* 396: 115-126.
4. Karaoz E., et al. 2012. Reduction of lesion in injured rat spinal cord and partial functional recovery of motility after bone marrow derived mesenchymal stem cell transplantation. *Turk. Neurosurg.* 22: 207-217.

## RESEARCH USE

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