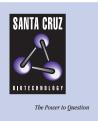
SANTA CRUZ BIOTECHNOLOGY, INC.

HNK-1ST (C-12): sc-49032



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

- Rollenhagen, A., Czaniera, R., Albert, M., Wintergerst, E.S. and Schachner, M. 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.
- Chou, D.K., Schachner, M. and Jungalwala, F.B. 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.
- Kang, H.G., Evers, M.R., Xia, G., Baenziger, J.U. and Schachner, M. 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.
- Senn, C., Kutsche, M., Saghatelyan, A., Bösl, M.R., Löhler, J., Bartsch, U., Morellini, F. and Schachner, M. 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/
- Kakuda, S., Oka, S. and Kawasaki, T. 2004. Mice deficient in the HNK-1 carbohydrate exhibit impaired learning and memory. Tanpakushitsu Kakusan Koso 49: 2431-2436.
- Kakuda, S., Sato, Y., Tonoyama, Y., Oka, S. and Kawasaki, T. 2005. Different acceptor specificities of two glucuronyltransferases involved in the biosynthesis of HNK-1 carbohydrate. Glycobiology 15: 203-210.
- Tagawa, H., Kizuka, Y., Ikeda, T., Itoh, S., Kawasaki, N., Kurihara, H., Onozato, M.L., Tojo, A., Sakai, T., Kawasaki, T. and Oka, S. 2005. A nonsulfated form of the HNK-1 carbohydrate is expressed in mouse kidney. J. Biol. Chem. 280: 23876-23883.
- Kizuka, Y., Matsui, T., Takematsu, H., Kozutsumi, Y., Kawasaki, T. and Oka, S. 2006. Physical and functional association of glucuronyltransferases and sulfotransferase involved in HNK-1 biosynthesis. J. Biol. Chem. 281: 13644-13651.

CHROMOSOMAL LOCATION

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

SOURCE

HNK-1ST (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus 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-49032 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HNK-1ST (C-12) 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) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HNK-1ST siRNA (h): sc-60794 and HNK-1ST siRNA (m): sc-60795.

Molecular Weight of HNK-1ST: 42 kDa.

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) Immunofluo-rescence: use donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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