



HS3ST3B1 (P-13): sc-107609

BACKGROUND

Heparan sulfate structures, which are responsible for executing multiple biologic activities, are generated and regulated by heparan sulfate biosynthetic enzymes. HS3ST3B1 (heparan sulfate (glucosamine) 3-O-sulfotransferase 3B1), also known as 3OST3B1, is a 390 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and belongs to the sulfotransferase 1 family. Expressed ubiquitously with highest expression in placenta and liver, HS3ST3B1 functions to catalyze the transfer of a sulfuryl group to an N-unsubstituted glucosamine linked to a 2-O-sulfo iduronic acid unit on heparan sulfate, and may also catalyze various other O-sulfation reactions within the body. HS3ST3B1 is encoded by a gene which maps to human chromosome 17.

REFERENCES

- Razi, N. and Lindahl, U. 1995. Biosynthesis of heparin/heparan sulfate. The D-glucosaminyl 3-O-sulfotransferase reaction: target and inhibitor saccharides. *J. Biol. Chem.* 270: 11267-11275.
- Shukla, D., Liu, J., Blaiklock, P., Shworak, N.W., Bai, X., Esko, J.D., Cohen, G.H., Eisenberg, R.J., Rosenberg, R.D. and Spear, P.G. 1999. A novel role for 3-O-sulfated heparan sulfate in herpes simplex virus 1 entry. *Cell* 99: 13-22.
- Shworak, N.W., Liu, J., Petros, L.M., Zhang, L., Kobayashi, M., Copeland, N.G., Jenkins, N.A. and Rosenberg, R.D. 1999. Multiple isoforms of heparan sulfate D-glucosaminyl 3-O-sulfotransferase. Isolation, characterization, and expression of human cdnas and identification of distinct genomic loci. *J. Biol. Chem.* 274: 5170-5184.
- Liu, J., Shworak, N.W., Sinaÿ, P., Schwartz, J.J., Zhang, L., Fritze, L.M. and Rosenberg, R.D. 1999. Expression of heparan sulfate D-glucosaminyl 3-O-sulfotransferase isoforms reveals novel substrate specificities. *J. Biol. Chem.* 274: 5185-5192.
- Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604058. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Inoue, K., Dewar, K., Katsanis, N., Reiter, L.T., Lander, E.S., Devon, K.L., Wyman, D.W., Lupski, J.R. and Birren, B. 2001. The 1.4-Mb CMT1A duplication/HNPP deletion genomic region reveals unique genome architectural features and provides insights into the recent evolution of new genes. *Genome Res.* 11: 1018-1033.
- Moon, A.F., Edavettal, S.C., Krahn, J.M., Munoz, E.M., Negishi, M., Linhardt, R.J., Liu, J. and Pedersen, L.C. 2004. Structural analysis of the sulfotransferase (3-O-sulfotransferase isoform 3) involved in the biosynthesis of an entry receptor for herpes simplex virus 1. *J. Biol. Chem.* 279: 45185-45193.

CHROMOSOMAL LOCATION

Genetic locus: HS3ST3B1 (human) mapping to 17p12; Hs3st3b1 (mouse) mapping to 11 B3.

RESEARCH USE

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

SOURCE

HS3ST3B1 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HS3ST3B1 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-107609 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HS3ST3B1 (P-13) is recommended for detection of HS3ST3B1 of 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).

Suitable for use as control antibody for HS3ST3B1 siRNA (h): sc-93963, HS3ST3B1 shRNA Plasmid (h): sc-93963-SH and HS3ST3B1 shRNA (h) Lentiviral Particles: sc-93963-V.

Molecular Weight of HS3ST3B1: 43 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) 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.

STORAGE

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

PROTOCOLS

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