SANTA CRUZ BIOTECHNOLOGY, INC.

HS3ST5 (N-14): sc-107615

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heparan sulfate structures, which are responsible for executing multiple biologic activities, are generated and regulated by heparan sulfate biosynthetic enzymes. HS3ST5 (heparan sulfate (glucosamine) 3-O-sulfotransferase 5), whose alternative names include 3OST5 or HS3OST5, is a 346 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus membrane and may play a role in the biosynthesis of human heparan sulfate, a blood anticoagulant. As a heparan sulfate 3-O-sulfotransferase, HS3ST5 transfers sulfate from 3-prime-phosphoadenosine 5-prime phosphosulfate (PAPS) to heparan sulfate and heparin. HS3ST5 is highly expressed in skeletal muscle and fetal brain, with lower levels found in spinal cord, cerebellum, colon and adult brain. HS3ST5 may increase susceptibility to herpes simplex virus, type 1 infection by generating an antithrombin-binding site and entry receptor for the virus.

REFERENCES

1. Xia, G., et al. 2002. Heparan sulfate 3-O-sulfotransferase isoform 5 generates both an antithrombin-binding site and an entry receptor for herpes simplex virus, type 1. J. Biol. Chem. 277: 37912-37919.
2. Chen, J., et al. 2003. Biosynthesis of 3-O-sulfated heparan sulfate: unique substrate specificity of heparan sulfate 3-O-sulfotransferase isoform 5. Glycobiology 13: 785-794.
3. Mochizuki, H., et al. 2003. Characterization of a heparan sulfate 3-O-sulfotransferase-5, an enzyme synthesizing a tetrasulfated disaccharide. J. Biol. Chem. 278: 26780-26787.
4. Duncan, M.B., et al. 2004. The biosynthesis of anticoagulant heparan sulfate by the heparan sulfate 3-O-sulfotransferase isoform 5. Biochim. Biophys. Acta 1671: 34-43.
5. Chen, J. and Liu, J. 2005. Characterization of the structure of antithrombin-binding heparan sulfate generated by heparan sulfate 3-O-sulfotransferase 5. Biochim. Biophys. Acta 1725: 190-200.
6. Liu, J. and Pedersen, L.C. 2007. Anticoagulant heparan sulfate: structural specificity and biosynthesis. Appl. Microbiol. Biotechnol. 74: 263-272.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 609407. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: HS3ST5 (human) mapping to 6q21; Hs3st5 (mouse) mapping to 10 B1.

SOURCE

HS3ST5 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HS3ST5 of human origin.

STORAGE

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

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-107615 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HS3ST5 (N-14) is recommended for detection of HS3ST5 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); non cross-reactive with other HS3ST family members.

HS3ST5 (N-14) is also recommended for detection of HS3ST5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HS3ST5 siRNA (h): sc-95068, HS3ST5 siRNA (m): sc-146087, HS3ST5 shRNA Plasmid (h): sc-95068-SH, HS3ST5 shRNA Plasmid (m): sc-146087-SH, HS3ST5 shRNA (h) Lentiviral Particles: sc-95068-V and HS3ST5 shRNA (m) Lentiviral Particles: sc-146087-V.

Molecular Weight of HS3ST5: 40 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.

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.