SANTA CRUZ BIOTECHNOLOGY, INC.

HS6ST1 (C-9): sc-398231

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 (HS) biosynthetic enzymes. HS6ST1 (heparan sulfate 6-O-sulfotransferase 1), also known as HS6ST, is a 411 amino acid single-pass type II membrane protein that exists as multiple alternatively spliced isoforms and belongs to the sulfotransferase 6 family. Expressed in fetal brain, HS6ST1 functions as a 6-O-sulfation enzyme that specifically catalyzes the transfer of sulfate from 3'-phosphoadenosine 5'-phosphosulfate (PAPS) to the N-sulfoglucosamine residue (GlcNS) HS. HS6ST1 is subject to post-translational N-glycosylation and is encoded by a functional gene on human chromosome 2 and a pseudogene on human chromosome 1 (known as LOC728969).

REFERENCES

1. Habuchi, H., et al. 1998. Molecular characterization and expression of heparan-sulfate 6-sulfotransferase. Complete cDNA cloning in human and partial cloning in Chinese hamster ovary cells. J. Biol. Chem. 273: 9208-9213.
2. Habuchi, H., et al. 2000. The occurrence of three isoforms of heparan sulfate 6-O-sulfotransferase having different specificities for hexuronic acid adjacent to the targeted N-sulfoglucosamine. J. Biol. Chem. 275: 2859-2868.
3. Habuchi, H., et al. 2003. Biosynthesis of heparan sulphate with diverse structures and functions: two alternatively spliced forms of human heparan sulphate 6-O-sulphotransferase-2 having different expression patterns and properties. Biochem. J. 371: 131-142.
4. Edavettal, S.C., et al. 2004. A conformational change in heparan sulfate 3-O-sulfotransferase-1 is induced by binding to heparan sulfate. Biochemistry 43: 4680-4688.

CHROMOSOMAL LOCATION

Genetic locus: HS6ST1 (human) mapping to 2q14.3; Hs6st1 (mouse) mapping to 1 B.

SOURCE

HS6ST1 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 52-79 within an internal region of HS6ST1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398231 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

HS6ST1 (C-9) is recommended for detection of HS6ST1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 HS6ST1 siRNA (h): sc-94375, HS6ST1 siRNA (m): sc-146089, HS6ST1 shRNA Plasmid (h): sc-94375-SH, HS6ST1 shRNA Plasmid (m): sc-146089-SH, HS6ST1 shRNA (h) Lentiviral Particles: sc-94375-V and HS6ST1 shRNA (m) Lentiviral Particles: sc-146089-V.

Molecular Weight (predicted) of HS6ST1: 48 kDa.

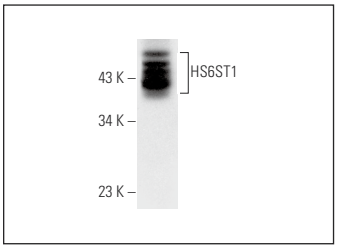
Molecular Weight (observed) of HS6ST1: 43 kDa.

Positive Controls: human brain extract: sc-364375 or Y79 cell lysate: sc-2240.

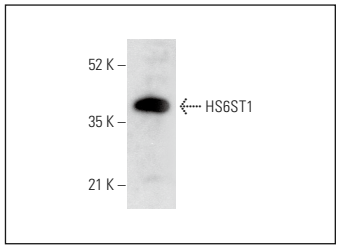
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HS6ST1 (C-9): sc-398231. Western blot analysis of HS6ST1 expression in human brain tissue extract.



HS6ST1 (C-9): sc-398231. Western blot analysis of HS6ST1 expression in Y79 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Nualart, F., et al. 2023. Hyperglycemia increases SCO-spondin and Wnt5a secretion into the cerebrospinal fluid to regulate ependymal cell beating and glucose sensing. PLoS Biol. 21: e3002308.

RESEARCH USE

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