SANTA CRUZ BIOTECHNOLOGY, INC.

HS3ST2 (G-6): sc-514361

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. HS3ST2 (heparan sulfate (glucosamine) 3-O-sulfotransferase 2), also known as 3OST2, is a 367 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and belongs to the heparan sulfate biosynthetic enzyme family. Expressed at high levels in brain and present at lower levels in placenta, lung, heart and skeletal muscle, HS3ST2 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. Via its catalytic activity, HS3ST2 may play a role in the nervous system, specifically in heparan sulfate-dependent neurobiologic events. The gene encoding HS3ST2 maps to human chromosome 16, which houses over 900 genes and comprises nearly 3% of the human genome.

REFERENCES

1. 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.
2. Shworak, N.W., et al. 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.
3. Liu, J., et al. 1999. Expression of heparan sulfate D-glucosaminyl 3-O-sulfotransferase isoforms reveals novel substrate specificities. J. Biol. Chem. 274: 5185-5192.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604056. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: HS3ST2 (human) mapping to 16p12.2; Hs3st2 (mouse) mapping to 7 F2.

SOURCE

HS3ST2 (G-6) is a mouse monoclonal antibody raised against amino acids 41-82 mapping near the N-terminus of HS3ST2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HS3ST2 (G-6) is available conjugated to agarose (sc-514361 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514361 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514361 PE), fluorescein (sc-514361 FITC), Alexa Fluor® 488 (sc-514361 AF488), Alexa Fluor® 546 (sc-514361 AF546), Alexa Fluor® 594 (sc-514361 AF594) or Alexa Fluor® 647 (sc-514361 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514361 AF680) or Alexa Fluor® 790 (sc-514361 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HS3ST2 (G-6) is recommended for detection of HS3ST2 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 HS3ST2 siRNA (h): sc-93072, HS3ST2 siRNA (m): sc-146084, HS3ST2 shRNA Plasmid (h): sc-93072-SH, HS3ST2 shRNA Plasmid (m): sc-146084-SH, HS3ST2 shRNA (h) Lentiviral Particles: sc-93072-V and HS3ST2 shRNA (m) Lentiviral Particles: sc-146084-V.

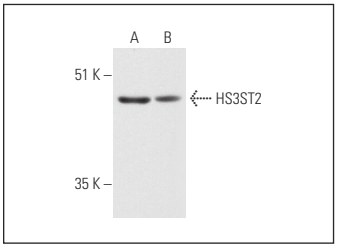
Molecular Weight of HS3ST2: 42 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

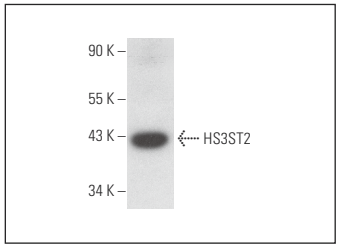
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



HS3ST2 (G-6): sc-514361. Western blot analysis of HS3ST2 expression in mouse brain (**A**) and rat brain (**B**) tissue extracts.



HS3ST2 (G-6): sc-514361. Western blot analysis of HS3ST2 expression in IMR-32 whole cell lysate.

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 for detailed protocols and support products.