

HS3ST3A1 (G-15): sc-107601

BACKGROUND

Heparan sulfate structures, which are responsible for executing multiple biologic activities, are generated and regulated by heparan sulfate biosynthetic enzymes. HS3ST3A1 (heparan sulfate (glucosamine) 3-O-sulfotransferase 3A1), also known as 3OST3A1 or HS3ST3A, is a 406 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and belongs to the heparan sulfate biosynthetic enzyme family. Expressed ubiquitously and present at higher levels in placenta, heart, kidney and liver, HS3ST3A1 functions as a heparan sulfate glucosaminyl 3-O-sulfotransferase that specifically transfers a sulfuryl group to an N-unsubstituted glucosamine linked to a 2-O-sulfo iduronic acid unit on heparan sulfate. The gene encoding HS3ST3A1 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

1. Razi, N., et al. 1995. Biosynthesis of heparin/heparan sulfate. The D-glucosaminyl 3-O-sulfotransferase reaction: target and inhibitor saccharides. *J. Biol. Chem.* 270: 11267-11275.
2. Shukla, D., et al. 1999. A novel role for 3-O-sulfated heparan sulfate in herpes simplex virus 1 entry. *Cell* 99: 13-22.
3. 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.
4. 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.
5. Liu, J., et al. 1999. Heparan sulfate D-glucosaminyl 3-O-sulfotransferase-3A sulfates N-unsubstituted glucosamine residues. *J. Biol. Chem.* 274: 38155-38162.

CHROMOSOMAL LOCATION

Genetic locus: HS3ST3A1 (human) mapping to 17p12; Hs3st3a1 (mouse) mapping to 11 B3.

SOURCE

HS3ST3A1 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HS3ST3A1 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-107601 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

HS3ST3A1 (G-15) is recommended for detection of HS3ST3A1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other HS3ST family members.

Suitable for use as control antibody for HS3ST3A1 siRNA (h): sc-93887, HS3ST3A1 siRNA (m): sc-146085, HS3ST3A1 shRNA Plasmid (h): sc-93887-SH, HS3ST3A1 shRNA Plasmid (m): sc-146085-SH, HS3ST3A1 shRNA (h) Lentiviral Particles: sc-93887-V and HS3ST3A1 shRNA (m) Lentiviral Particles: sc-146085-V.

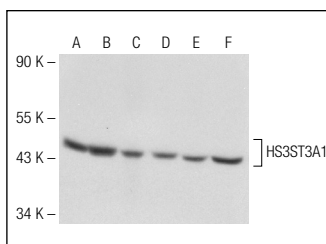
Molecular Weight of HS3ST3A1: 45 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

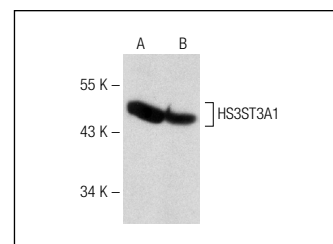
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



HS3ST3A1 (G-15): sc-107601. Western blot analysis of HS3ST3A1 expression in JAR (A), JEG-3 (B), K-562 (C), DU 145 (D), HEL 92.1.7 (E) and HeLa (F) whole cell lysates.



HS3ST3A1 (G-15): sc-107601. Western blot analysis of HS3ST3A1 expression in KNRK (A) and NIH/3T3 (B) whole cell lysates.

RESEARCH USE

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

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Try **HS3ST3A1 (D-7): sc-377259** or **HS3ST3A1 (E-12): sc-390024**, our highly recommended monoclonal alternatives to HS3ST3A1 (G-15).