

HS3ST3A1 (D-7): sc-377259

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-sulfiduronic 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 (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 117-149 within an internal region of HS3ST3A1 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-377259 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

HS3ST3A1 (D-7) is recommended for detection of HS3ST3A1 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

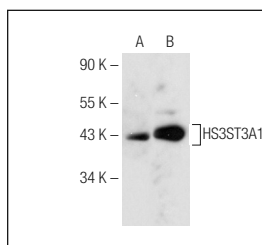
Molecular Weight of HS3ST3A1: 45 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, HeLa whole cell lysate: sc-2200 or JAR cell lysate: sc-2276.

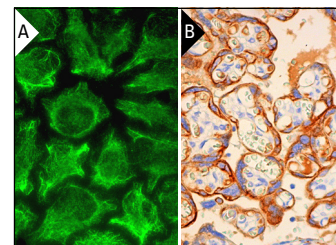
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HS3ST3A1 (D-7): sc-377259. Western blot analysis of HS3ST3A1 expression in HeLa (A) and JAR (B) whole cell lysates.



HS3ST3A1 (D-7): sc-377259. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of trophoblastic cells (B).

STORAGE

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