

HS6ST3 (Q-16): sc-84309

BACKGROUND

Heparan sulfate proteoglycans are long chains of heparan sulfates (HSs) which are connected to core proteins and are expressed ubiquitously on cell surfaces. HSs are thought to interact with many proteins including growth factors, morphogens and their receptors whose functions include the regulation of ligand stability. In the Golgi apparatus, HS structures are thought to be synthesized by heparan-sulfate chain modification enzymes. These HS chains are structurally modified at the cell surface by enzymes including HS6ST3 (HS 6-O-sulfotransferase 3), which catalyzes the transfer of an O-sulfate from 3'-phosphoadenosine 5'-phosphosulfate (PAPS) to an N-sulfoglucosamine residue (GlcNS) of HS, forming binding sites for proteins. HS6ST3 is a 471 amino acid protein that is localized to cell membranes and is a member of the sulfotransferase 6 family. HS6ST3 is involved in creating structures on HS chains that interact with a variety of proteins which are thought to be involved in many diverse cellular processes, including proliferation, differentiation, adhesion, migration, inflammation and blood coagulation.

REFERENCES

1. 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.
2. 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.
3. Smeds, E., et al. 2003. Substrate specificities of mouse heparan sulphate glucosaminyl 6-O-sulphotransferases. *Biochem. J.* 372: 371-380.
4. Jemth, P., et al. 2003. Oligosaccharide library-based assessment of heparan sulfate 6-O-sulfotransferase substrate specificity. *J. Biol. Chem.* 278: 24371-24376.
5. Sedita, J., et al. 2004. Differential expression of heparan sulfate 6-O-sulfotransferase isoforms in the mouse embryo suggests distinctive roles during organogenesis. *Dev. Dyn.* 231: 782-794.
6. Habuchi, H., et al. 2004. Sulfation pattern in glycosaminoglycan: does it have a code? *Glycoconj. J.* 21: 47-52.

CHROMOSOMAL LOCATION

Genetic locus: HS6ST3 (human) mapping to 13q32.1; Hs6st3 (mouse) mapping to 14 E4.

SOURCE

HS6ST3 (Q-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of HS6ST3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84309 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HS6ST3 (Q-16) is recommended for detection of HS6ST3 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 families HS6ST1 and HS6ST2.

HS6ST3 (Q-16) is also recommended for detection of HS6ST3 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for HS6ST3 siRNA (h): sc-75305, HS6ST3 siRNA (m): sc-146090, HS6ST3 shRNA Plasmid (h): sc-75305-SH, HS6ST3 shRNA Plasmid (m): sc-146090-SH, HS6ST3 shRNA (h) Lentiviral Particles: sc-75305-V and HS6ST3 shRNA (m) Lentiviral Particles: sc-146090-V.

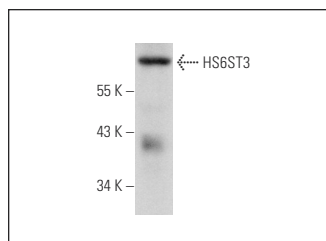
Molecular Weight of HS6ST3: 55 kDa.

Positive Controls: human fetal brain tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HS6ST3 (Q-16): sc-84309. Western blot analysis of HS6ST3 expression in human fetal brain tissue extract.

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.