

DESCRIPTION

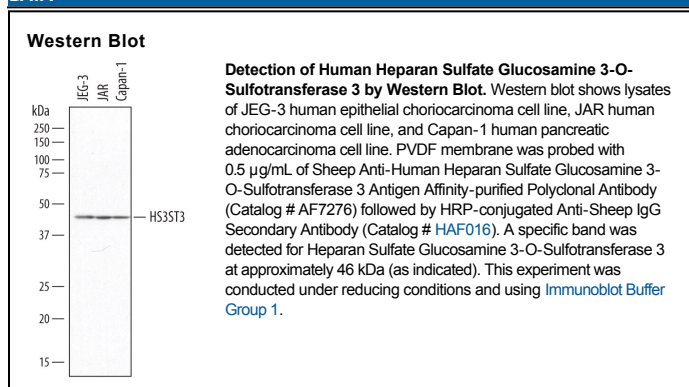
Species Reactivity	Human
Specificity	Detects human Heparan Sulfate Glucosamine 3-O-Sulfotransferase 3 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) HS3ST4, rhHS2ST1, rhHS6ST1, and recombinant mouse HS6ST3 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived human Heparan Sulfate Glucosamine 3-O-Sulfotransferase 3 Gly60-Asp390 Accession # Q9Y662
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Heparan sulfate is a highly sulfated polysaccharide found on the cell surface and within the extracellular matrix. It is typically covalently attached to the protein core of proteoglycans, such as syndecans and glypicans. Heparin, on the other hand, is considered to be a highly sulfated version of heparan sulfate that is predominantly found in mast cells. Both heparin and heparan sulfate contain disaccharide repeats of uronic acid and N-acetylglucosamine and are modified by the same sulfotransferases (1, 2). The uronic acid residues can be sulfated at the 2-O position by heparan sulfate 2-O sulfotransferase (HS2ST). The N-acetylglucosamine residues can be sulfated at the N, 3-O, and 6-O positions by N-deacetylase/ N-sulfotransferases (NDSTs), heparan sulfate 3-O sulfotransferases (HS3STs) and heparan sulfate 6-O sulfotransferases (HS6STs) respectively. There are seven HS3STs in the human genome (3, 4). HS3ST3 has two forms, HS3ST3A1 and HS3ST3B1, differing only at the N-terminus. The two HS3STs have the same substrate specificity (5) and similar tissue distribution with a high levels of expression in the liver and spleen (3, 6). HS3ST3 can sulfate IdoUA2S-GlcNS, IdoUA2S-GlcNH2 and IdoUA2S-GlcNS6S and generate tetrasulfated disaccharide units (3, 6). HS3ST3 is involved in generation of a binding receptor to the herpes simplex virus-1 (HSV-1) (7). The enzyme activity was determined using a phosphatase-coupled method (8).

References:

1. Bernfield, M. *et al.* (1999) *Annu. Rev. Biochem.* **68**:729.
2. Esko, J.D. and Selleck, S.B. (2002) *Annu. Rev. Biochem.* **71**:435.
3. Shworak, N.W. *et al.* (1999) *J. Biol. Chem.* **274**:5170.
4. Xu, D. *et al.* (2005) *Biochem. J.* **386**:451.
5. Liu, J. *et al.* (1999) *J. Biol. Chem.* **274**:5185.
6. Mochiziki, H. (2008) *J. Biol. Chem.* **283**:31237.
7. Moon, A.F. *et al.* (2004) *J. Biol. Chem.* **279**:45185.
8. Prather, B. *et al.* (2012) *Anal. Biochem.* in press.

