

#### DESCRIPTION

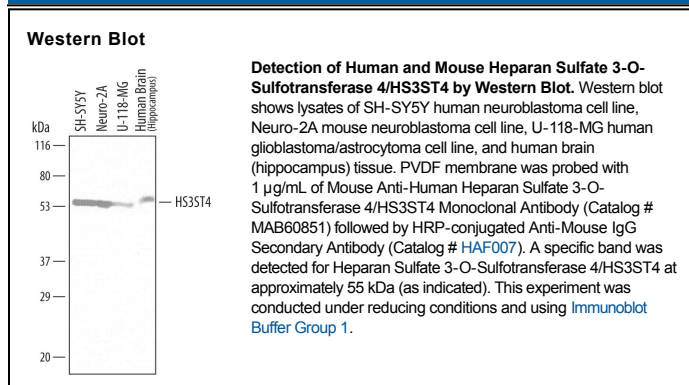
<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	Detects human Heparan Sulfate 3-O-Sulfotransferase 4/HS3ST4 in direct ELISAs, and human and mouse HS3ST4 in Western blots. In Western blots, no cross-reactivity with recombinant human HS3ST3B1 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 712011
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human Heparan Sulfate 3-O-Sulfotransferase 4/HS3ST4 Gly184-Lys456 Accession # Q9Y661
<b>Formulation</b>	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
<b>Western Blot</b>	1 µg/mL	See Below

#### DATA



#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

Heparan sulfate is a highly sulfated polysaccharide that can be 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, can be considered as 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). HS3ST4 and HS3ST2 are brain specific and may participate in HS-dependent neurobiologic events (5). HS3ST4 can generate tetrasulfated heparan sulfate disaccharide, the most highly sulfated sugar found in biological samples (6, 7), and may have a role in assisting HSV-1 entry and spread (8). HS3ST4 is a Golgi resident type II membrane protein and has the longest proline rich stem region among all HS3STs (3, 5).

#### 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. Lawrence, R. *et al.* (2007) *Matrix Biol.* **26**:442.
6. Mochizuki, H. *et al.* (2003) *J. Biol. Chem.* **278**:26780.
7. Wu, Z.L. *et al.* (2004) *J. Biol. Chem.* **279**:1861.
8. Tiwari, V. *et al.* (2005) *Biochem. Biophys. Res. Commun.* **338**:930.