Human Syndecan-3 Antibody

Monoclonal Rat IgG_{2A} Clone # 374420

Catalog Number: MAB3539

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Syndecan-3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse Syndecan-3, recombinant human (rh) Syndecan-1, or rhSyndecan-2 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 374420
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Syndecan-3 Gln48-Lys383 (predicted) Accession # O75056
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 either lyophilized or 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	1 µg/mL	Recombinant Human Syndecan-3 (Catalog # 3539-SD)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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.** ● 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

Syndecan-3, also called N-syndecan, is one of four vertebrate syndecans that are principal carriers of heparan sulfate and chondroitin sulfate glycosaminoglycans (GAGs) (1-3). These type 1 transmembrane proteins show conserved cytoplasmic domains and divergent extracellular domains (1-3). Human Syndecan-3 is synthesized as a 442 amino acid (aa) core protein with a 44 aa signal sequence, a 343 aa extracellular domain (ECD), a 21 aa transmembrane (TM) region and a 34 aa cytoplasmic tail with a binding site for PDZ domains (1). The ECD of human Syndecan-3 shares 83%, 83%, 92%, 91% and 91% aa identity with of mouse, rat, equine, bovine and canine Syndecan-3, respectively. Splice isoforms of 384 aa and 346 aa, containing either a 28 aa substitution for aa 1-86 or deletion of aa 1-96, have been reported (4). Syndecan-3 contains four conserved closely-spaced GAG attachment sites near the N-terminus and unique threonine-rich and mucin-like sequences near the membrane (4). Addition of glycan side chains results in an apparent size of 120-150 kDa. Non-covalent homodimerization of Syndecan-3 or, potentially, heterodimerization with Syndecan-2 or -4, is dependent on the transmembrane domain (5). A cleavage site near the TM domain allows shedding of soluble ECD; the remainder of the molecule undergoes regulated intramembrane proteolysis (6). Syndecan-3 is expressed in the nervous system and at limb buds during development (1, 2). It is expressed on neuronal axons and Schwann cell perinodal processes, promoting nerve cell migration and synapse formation (7, 8). Roles in memory and body weight regulation have been described (2, 9, 10). Through localization of growth factors such as FGF2, HGF and TGF-β, it regulates expression of molecules important for differentiation of muscle and bone, such as myogenin, BMP-2 and hedgehog family members (1, 2, 11-13). In adults, it is upregulated during regeneration, such as following myocardial infarction (14).

References:

1. Tkachenko, E. *et al.* (2005) Circ. Res. **96**:488.
2. Reizes, O. *et al.* (2008) Int. J. Biochem. Cell Biol. **40**:28.
3. Carey, D.J. *et al.* (1997) J. Biol. Chem. **272**:2873.
4. ENTREZ protein Accession # O75056, EAX076736 and EAX07637.
5. Dews, I.C. and K.R. MacKenzie (2007) Proc. Natl. Acad. Sci. USA **104**:20782.
6. Schultz, J.G. *et al.* (2003) J. Biol. Chem. **278**:48651.
7. Hienola, A. *et al.* (2006) J. Cell Biol. **174**:569.
8. Goutebroze, L. *et al.* (2003) BMC Neurosci. **4**:29.
9. Kaksonen, M. *et al.* (2002) Mol. Cell. Neurosci. **21**:158.
10. Strader. A.D. *et al.* (2004) J. Clin. Invest. **114**:1354.
11. Cornelison, D.D.W. *et al.* (2004) Genes Dev. **18**:2231.
12. Fisher, M.C. *et al.* (2006) Matrix Biol. **25**:27.
13. Pacifici, M. *et al.* (2005) J. Bone Miner. Metab. **23**:191.
14. Finsen, A.V. *et al.* (2004) Physiol. Genomics **16**:301.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449