

DESCRIPTION

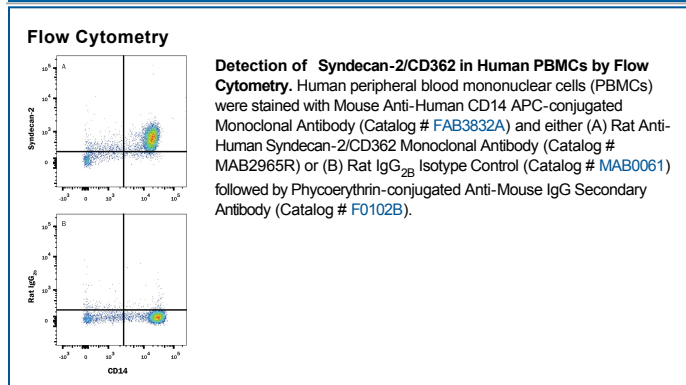
Species Reactivity	Human
Specificity	Detects human Syndecan-2/CD362 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Syndecan-1, recombinant human (rh) Syndecan-3, or rhSyndecan-4 is observed.
Source	Recombinant Monoclonal Rat IgG _{2B} Clone # 305515R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Syndecan-2/CD362 Glu19-Gly144 Accession # AAH49836
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
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below

DATA



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. <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

Syndecan-2, previously known as fibroglycan or heparan sulfate proteoglycan, is a member of the syndecan family of Type 1 transmembrane proteins capable of carrying heparan sulfate (HS) and chondroitin sulfate glycosaminoglycans. The four vertebrate syndecans show conserved cytoplasmic domains and divergent extracellular portions (except for GAG attachment sites). Among the Syndecans, Syndecan-2 is most similar to Syndecan-4 (1-3). Human Syndecan-2 is synthesized as a 201 amino acid (aa) core protein with an 18 aa signal sequence, a 126 aa extracellular domain (ECD), a 25 aa transmembrane region and a 32 aa cytoplasmic tail (4). The human ECD of Syndecan-2 contains three closely-spaced consensus Ser-Gly sequences for the attachment of HS side chains. It shares 76%, 73%, 87%, 78% and 63% aa identity with the ECD of mouse, rat, bovine, canine and chicken Syndecan-2, respectively. The cytoplasmic tail has both serine and tyrosine phosphorylation sites. Addition of 20-80 disaccharides per side chain adds considerably to the size of the 22 kDa core protein. Non-covalent homodimerization of Syndecan-2 is dependent on the transmembrane domain (5). Syndecan-2 is expressed in cells of mesenchymal origin, neuronal and epithelial cells, and is the predominant syndecan expressed during embryonic development. Expression is upregulated in several cancer cell lines (6). After induction in macrophages by inflammatory mediators, Syndecan-2 selectively binds FGFbasic, VEGF and EGF (7). Syndecan-2 expressed on human primary osteoblasts binds GM-CSF and may function as a co-receptor (8). Activated endothelial cell Syndecan-2 specifically binds IL-8 and may participate in promoting neutrophil extravasation by forming a chemotactic IL-8 gradient (9). Typically, cytokine, chemokine and extracellular matrix protein binding occurs through interaction with HS side chains, but the Syndecan-2 extracellular domain can bind TGF- β directly via protein-protein interaction (10).

References:

1. Tkachenko, E. *et al.* (2005) *Circ. Res.* **96**:488.
2. Oh, E.-S, and J. R. Couchman (2004) *Mol. Cells* **17**:181.
3. Essner, J. J. *et al.* (2006) *Int. J. Biochem. Cell Biol.* **38**:152.
4. Marynen, P. *et al.* (1989) *J. Biol. Chem.* **264**:7017.
5. Choi, S. *et al.* (2005) *J. Biol. Chem.* **280**:42573.
6. Park, H. *et al.* (2002) *J. Biol. Chem.* **277**:29730.
7. Clasper, S. *et al.* (1999) *J. Biol. Chem.* **274**:24113.
8. Modrowski, D. *et al.* (2000) *J. Biol. Chem.* **275**:9178.
9. Halden, Y. *et al.* (2004) *Biochem. J.* **377**:533.
10. Chen, L. *et al.* (2004) *J. Biol. Chem.* **279**:15715.