Mouse Syndecan-2/CD362 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF6585

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Syndecan-2/CD362 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human Syndecan-2/CD362 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Syndecan-2/CD362 Glu19-Phe141 Accession # P43407
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.

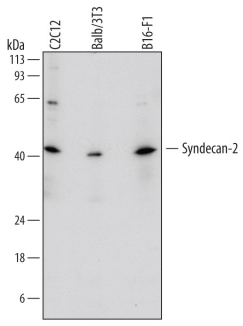
APPLICATIONS

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	See Below
Flow Cytometry	0.25 µg/10^6 cells	See Below
Immunohistochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

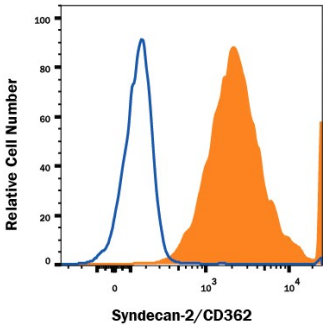
DATA

Western Blot



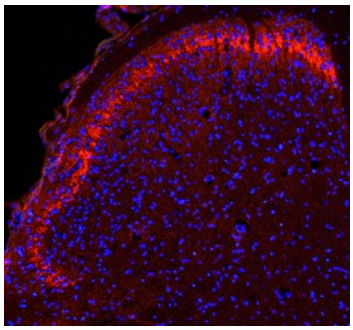
Detection of Mouse Syndecan-2/CD362 by Western Blot. Western blot shows lysates of C2C12 mouse myoblast cell line, Balb/3T3 mouse embryonic fibroblast cell line, and B16-F1 mouse melanoma cell line. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Mouse Syndecan-2/CD362 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6585) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Syndecan-2/CD362 at approximately 42 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of Syndecan-2/CD362 in NIH-3T3 Mouse Cell Line by Flow Cytometry. NIH-3T3 mouse cell line was stained with Sheep Anti-Mouse Syndecan-2/CD362 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6585, filled histogram) or control antibody (Catalog # 5-001-A, open histogram), followed by Allophycocyanin-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0127). View our protocol for Staining Membrane-associated Proteins.

Immunohistochemistry



Syndecan-2/CD362 in Mouse Spinal Cord. Syndecan-2/CD362 was detected in perfusion fixed frozen sections of mouse spinal cord using Sheep Anti-Mouse Syndecan-2/CD362 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6585) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to the dorsal horn. View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

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.** ● 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.

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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). Mouse Syndecan-2 is synthesized as a 202 amino acid (aa) core protein with an 18 aa signal sequence, a 127 aa extracellular domain (ECD), a 25 aa transmembrane region and a 32 aa cytoplasmic tail (4). The ECD of mouse Syndecan-2 contains three closely-spaced consensus Ser-Gly sequences for the attachment of HS side chains. It shares 76%, 86%, 74% and 72% aa identity with the ECD of human, rat, porcine and bovincoe 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, or heterodimerization with Syndecan-4, is dependent on the transmembrane domain (5, 6). Syndecan-2 is expressed in cells of mesenchymal origin, neuronal and epithelial cells, and is the predominant syndecan expressed during embryonic development. Expression is up-regulated in several cancer cell lines (7). After induction in macrophages by inflammatory mediators, Syndecan-2 selectively binds FGF basic, VEGF and EGF (8). Syndecan-2 expressed on human primary osteoblasts binds GM-CSF and may function as a co-receptor (9). Activated endothelial cell Syndecan-2 specifically binds IL-8 and may participate in promoting neutrophil extravasation by forming a chemotactic IL-8 gradient (10). 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 (11).

References:

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