

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived mouse Syndecan-2/CD362 protein
Met1-Phe141, with a C-terminal 6-His tag
Accession # P43407

N-terminal Sequence Analysis Glu19

Predicted Molecular Mass 14.2 kDa

SPECIFICATIONS

SDS-PAGE 30-40 kDa, reducing conditions

Activity Measured by the ability of the immobilized protein to support the adhesion of the L Cells mouse fibroblast cell line.
When 5×10^4 cells/well are added to Recombinant Mouse Syndecan-2/CD362 and Human Fibronectin (0.5 µg/mL, Catalog # 1918-FN) coated plates, cell adhesion is enhanced in a dose dependent manner after 30 minutes at 37 °C. The ED₅₀ for this effect is 1.5-6.0 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 200 µg/mL in PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.
- 3 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). 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 bovine 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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