

## DESCRIPTION

**Source** Mouse myeloma cell line, NS0-derived human Syndecan-2/CD362 protein  
Glu19-Glu144, with a C-terminal 6-His tag  
Accession # AAH49836

**N-terminal Sequence Analysis** Glu19

**Predicted Molecular Mass** 14.8 kDa

## SPECIFICATIONS

**SDS-PAGE** 35-45 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
Immobilized Recombinant Human Syndecan-2/CD362 at 200 ng/mL (100 µL/well) can bind recombinant human FGF-basic with a linear range of 0.1-10 ng/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 100 µg/mL in sterile 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). 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:

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