

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Syndecan-3 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) Syndecan-1, rhSyndecan-2, recombinant mouse (rm) Syndecan-3, or rmSyndecan-4 is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 374412
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Syndecan-3 Gln48-Lys383 Accession # O75056
<b>Formulation</b>	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.

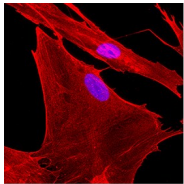
## APPLICATIONS

**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.

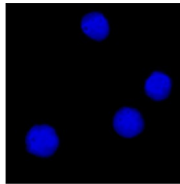
	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Immunocytochemistry</b>	8-25 µg/mL	Immersion fixed IMR-90 human lung fibroblast cell line

## DATA

### Immunocytochemistry



Positive (IMR-90 cells)



Negative (HL-60 cells)

**Syndecan-3 in IMR-90 Human Cell Line.** Syndecan-3 was detected in immersion fixed IMR-90 human lung fibroblast cell line (positive staining) and HL-60 human acute promyelocytic leukemia cell line (negative staining) using Rat Anti-Human Syndecan-3 Monoclonal Antibody (Catalog # MAB35391) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). Specific staining was localized to cell membrane and cytoplasm. Staining was performed using our protocol for Fluorescent ICC Staining of Non-adherent Cells.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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- $\beta$ , 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:**

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