Human Syndecan-4
Alexa Fluor® 750-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 336304

Catalog Number: FAB29181S

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Syndecan-4 in direct ELISAs.
Source	Monoclonal Rat IgG_{2A} Clone # 336304
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Syndecan-4 Ser20-Glu145 Accession # P31431
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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	0.25-1 µg/10^6 cells	HeLa human cervical epithelial carcinoma cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Syndecan-4, previously known as Amphiglycan or Ryudocan, is a member of the syndecan family of Type 1 transmembrane proteins capable of carrying Heparan Sulfate (HS) and Chondroitin Sulfate (CS) glycosaminoglycans. The four vertebrate syndecans have two conserved cytoplasmic domains and divergent extracellular portions, except for HS attachment sites. Syndecan-4 is the most similar to Syndecan-2, but is more universally expressed and is found in virtually every cell type. Expression can be upregulated by TGF-β2 and in response to mechanical stress in smooth muscle, wound healing, arterial injury or acute myocardial infarction, probably in response to at least one inflammatory mediator (1, 2). Human Syndecan-4 is synthesized as a 198 amino acid (aa) core protein with an 18 aa signal sequence, a 127 aa extracellular domain containing three consensus Ser-Gly sequences for the attachment of HS side chains, a 25 aa transmembrane region and a 28 aa cytoplasmic tail (3). Human Syndecan-4 ECD shares approximately 79%, 78% and 81% aa sequence identity with mouse, rat and porcine Syndecan-4 ECD, respectively. Addition of 20-80 disaccharides per side chain adds considerably to the size of the 20 kDa core protein. Non-covalent homodimerization of Syndecan-4 is dependent on the transmembrane domain (4). The HS chains can bind fibronectin, SDF-1, antithrombin, FGF-2, midkine and tissue factor pathway inhibitor and can present FGF-2 to its receptors (1, 2, 5). Proteolytic cleavage by plasmin, thrombin or a metalloproteinase may create a functional ectodomain (6-8). Genetic disruption of the Syndecan-4 gene causes a mild phenotype, presumably due to compensation by other syndecans, but mice have an increase in placental thrombi as well as defects in wound healing and response to endotoxin shock (9, 10).

References:

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