Human Syndecan-1/CD138
Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_1 Clone # 359103

Catalog Number: FAB2780G

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Syndecan-1 in direct ELISAs. In direct ELISAs, this antibody shows approximately 60% cross-reactivity with recombinant mouse (rm) Syndecan-1 and no cross-reactivity with recombinant human (rh) Syndecan-2, rhSyndecan-3, or rmSyndecan-4.
Source	Monoclonal Rat IgG_1 Clone # 359103
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Syndecan-1/CD138 Gln18-Glu251 Accession # NP_002988
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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	RPMI 8226 human multiple myeloma 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-1, designated CD138, is a dimeric type I transmembrane (TM) protein that belongs to the syndecan family of Type 1 transmembrane proteins (1, 2). The four syndecan family members are major carriers of heparan sulfate (HS) and chondroitin sulfate glycosaminoglycans (GAGs) that have different expression patterns and extracellular sequences. Syndecan-1 forms weak non-covalent homodimers, or heterodimers with Syndecan-2 or -3, through interactions of the transmembrane domain (3). It is synthesized as a 310 amino acid (aa) precursor with a 17 aa signal sequence, a 234 aa extracellular domain (ECD) that includes three closely-spaced consensus Ser-Gly HS attachment sites near the N-terminus, a 25 aa TM segment, and a 34 aa cytoplasmic region that includes a PDZ binding motif with a tyrosine phosphorylation site. The ECD is variably modified by GAGs, producing molecular weights of 120-200 kDa for native Syndecan-1. Soluble forms are shed via proteolytic cleavage. Human Syndecan-1 ECD shares 65-71% aa identity with the ECD of rat, mouse, canine, equine and bovine Syndecan-1. Syndecan-1 shows highest expression on epithelial cells such as keratinocytes, and terminally differentiated B cells such as plasma cells (4, 5). It aids wound healing in skin, cornea, and heart following myocardial infarction by promoting re-epithelialization, migration, and collagen deposition (4-8). It binds chemokines, creating chemotactic gradients when shed, but also binds and modulates integrins to control the influx of leukocytes (5, 7, 9). The net effect is to allow, but limit, inflammation. In myeloma and other cancers, shedding of Syndecan-1 can facilitate growth, angiogenesis and metastasis (10-12). Growth factors, such as FGFs and HGF, bind GAG chains and use Syndecan-1 as a coreceptor (12, 13). The GAG chains may also be used by a variety of viruses and bacteria for cell adhesion and uptake (4).

References:

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