Qty: 100 µg/400 µL

Rabbit anti-Syndecan-1
Catalog No. 36-2900
Lot No.

Rabbit anti-Syndecan-1

FORM
This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.289

IMMUNOGEN
Synthetic peptide derived from an internal region of the human Syndecan-1 protein.

SPECIFICITY
This antibody reacts with the human Syndecan-1 protein. On Western blots, a single band at ~90 kDa representing the glycosylated form of Syndecan-1; occasionally a band of ~31 kDa representing the unglycosylated form of Syndecan-1 may be observed.

REACTIVITY
Reactivity has been confirmed with human T47D, SW-480 and PC-3 cell lysates by Western blotting and with formalin-fixed, paraffin-embedded (FFPE) human gastric cancer and breast cancer tissues, and mouse and rat stomach, small bowel, and skin tissues by immunohistochemistry.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Western Blotting</th>
<th>ELISA</th>
<th>Immunohistochemistry (FFPE)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>+++</td>
<td>ND</td>
<td>+++</td>
</tr>
<tr>
<td>Mouse</td>
<td>ND</td>
<td>ND</td>
<td>+++</td>
</tr>
<tr>
<td>Rat</td>
<td>ND</td>
<td>ND</td>
<td>+++</td>
</tr>
<tr>
<td>Immunogen</td>
<td>N/A</td>
<td>+++</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(Excellent ++++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE
Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1-1 µg/mL
Western Blotting: 1-3 µg/mL
Immunohistochemistry*: 10 µg/mL

* For best results in immunohistochemistry with formalin-fixed, paraffin-embedded (FFPE) tissues, heat induced epitope retrieval (HIER) with EDTA, pH 8.0, is required prior to staining.

STORAGE
Store at 2-8°C for up to one month. Store at −20°C for long-term storage. Avoid repeated freezing and thawing.

(cont’d)
BACKGROUND

Syndecans 1-4 are heparan sulfate proteoglycans (HSPGs), which are cell-surface-associated proteins. Syndecans contain a small core protein with distinct functional domains to which are linked multiple glycosaminoglycan (GAG) chains, predominantly of the heparan sulfate variety. Syndecan synthesis is highly regulated and is dependent on both cell type and developmental state. Syndecans are involved in cell adhesion, tissue morphogenesis, and differentiation and regulation of cell responsiveness to soluble growth-regulatory compounds. These functions are attributed primarily to the glycan moieties. Syndecans also interact with growth factors such as fibroblast growth factor and epidermal growth factor.

Syndecan-1 is the prototypical member of the syndecan family, and is expressed on epithelia, pre-B cells, and plasma cells. Syndecan-1 is also expressed by human myeloma cell lines, where it mediates cell-cell adhesion, adhesion to type I collagen, and inhibition of invasion into type I collagen gels. Cells that normally invade type I collagen gels are rendered non-invasive after their transfection with syndecan-1 cDNA, showing that loss of syndecan-1 expression on the cell surface may be essential for the process of multiple myeloma (MM) cell invasion. Syndecan-1 is shed from myeloma cells and accumulates in the serum of myeloma patients. Shed syndecan-1 accumulates within the extracellular matrix of the marrow and may play a critical role in promoting myeloma pathogenesis, or in regeneration of the tumor after chemotherapy. Soluble syndecan-1 may participate in the pathology of myeloma by modulating cytokine activity within the bone marrow, and may be an important prognostic factor in MM. Syndecan-1 is a functional coreceptor for hepatocyte growth factor (HGF) that promotes HGF/Met signaling in MM cells, suggesting a novel function for syndecan-1 in MM tumorigenesis.

The level of syndecan-1 expression is a distinguishing feature between keratoacanthoma and invasive cutaneous squamous cell carcinoma. E-cadherin and syndecan-1 act in concert to stabilize the epithelium; loss of both of these adhesion molecules is associated with malignant transformation. Syndecan-1 is also a prognostic marker for laryngeal cancer and a sensitive marker for plasmacytoma. Syndecan-1 expression is upregulated in pancreatic but not other gastrointestinal cancers. Epithelial and stromal syndecan-1 expression is a predictor of outcome in patients with gastric cancer. Syndecan-1 is expressed at high levels in both breast cancer tissues and cell-lines when compared with normal breast tissues, and expression is induced in the stroma of infiltrating breast carcinoma. In breast carcinoma, relative expression levels of syndecan-1 and syndecan-4 regulate fibroblast growth factor receptor binding.

REFERENCES


RELATED PRODUCTS

<table>
<thead>
<tr>
<th>Product</th>
<th>Clone/PAD*</th>
<th>Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit anti-Syndecan-3 (N-term)</td>
<td>ZMD.285</td>
<td>36-2500</td>
</tr>
<tr>
<td>Rabbit anti-Syndecan-3 Mid</td>
<td>ZMD.284</td>
<td>36-2400</td>
</tr>
<tr>
<td>Protein A rec-Protein G</td>
<td>Sepharose® 4B</td>
<td>10-1041</td>
</tr>
<tr>
<td></td>
<td>Sepharose® 4B</td>
<td>10-1241</td>
</tr>
</tbody>
</table>

*PAD: Polyclonal Antibody Designation

For Research Use Only

www.invitrogen.com
Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com

Important Licensing Information - These products may be covered by one or more Limited Use Label Licenses (see the Invitrogen Catalog or our website, www.invitrogen.com). By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.