

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Glypican 1 in direct ELISAs.                                                                                                                                                                                                                                  |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 1019765                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Glypican 1<br>Asp24-Ser530<br>Accession # P35052                                                                                                                                                                      |
| <b>Conjugate</b>          | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

**Immunocytochemistry** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

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

## BACKGROUND

The Glypicans (*glypiated proteoglycans*) are a small multigene family of GPI-linked proteoglycans that play a key role in growth factor signaling (1, 2, 3, 4). There are six known mammalian Glypicans. They all share a common-sized protein core of 60 - 70 kDa, an N-terminus which likely forms a compact globular domain, 14 conserved cysteines that form multiple intrachain disulfide bonds, and a number of C-terminal N- and O-linked carbohydrate attachment sites. Based on exon organization and the location of O-linked glycosylation sites, at least two subfamilies of Glypicans are known, with one subfamily containing Glypicans 1, 2, 4 and 6, and another subfamily containing Glypicans 3 and 5 (3, 5). Human Glypican 1 (GPC-1) is synthesized as a 558 amino acid (aa) preproprecursor that contains a 23 aa signal sequence, a 507 aa mature segment, and a 28 aa C-terminal prosegment (6, 7). There are two potential N-linked and four potential O-linked sites for glycosylation or glycanation. There are potentially two heparan sulfate (HS) modifications on GPC-1 that could contribute to a native molecular weight of approximately 200 kDa (7, 8, 9). Mature human GPC-1 shares 91% aa identity with mature mouse GPC-1. There are two potential splice variants of human GPC-1. Both show an alternate start site at Met73, while one has an additional 65 aa substitution for the C-terminal 264 amino acids (10, 11). Cells known to express GPC-1 include neurons, smooth and skeletal muscle cells, keratinocytes, osteoblasts, Schwann cells, immature dendritic cells, and tumor, plus tumor-associated vascular endothelial cells (8, 9, 12 - 15). The function of GPC-1 is complex and varied. As a proteoglycan, it appears to make use of its HS adduct to impact select growth factor activity (16). This is accomplished by having juxtamembrane HS attachment sites, and a flexible, GPI-linkage (17). Data suggests GPC-1 and sulfation enzymes may collaborate to regulate FGF signaling. HS modules that are rich in 2-O- and 6-O- sulfate upregulate FGF-2 activation of FGFR1c (18). Similarly, FGF-1 requires both 2-O- and 6-O-sulfation to bind to FGFR2c and 3c. By contrast, FGF-1 requires no sulfation to bind to FGFR2b, and FGF-8b needs only 6-O-sulfation to activate FGFR3c. Thus, many FGF receptor isoform specific effects may be attributed to an interaction between Glypican family members and the cell sulfation system (19).

## PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.