Human/Mouse/Rat Glypican 1 Alexa Fluor® 532-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 1019770

Catalog Number: FAB45191X

100 µg

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, and rat Glypican 1 in Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 1019770
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Glypican 1 Asp24-Ser530 Accession # P35052
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

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

The Glypicans (*glypi*ated proteogly*cans*) 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 juxtramembrane 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 contract, 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

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