

DESCRIPTION

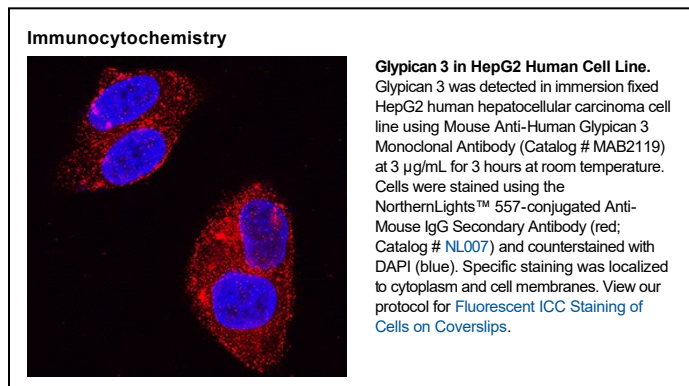
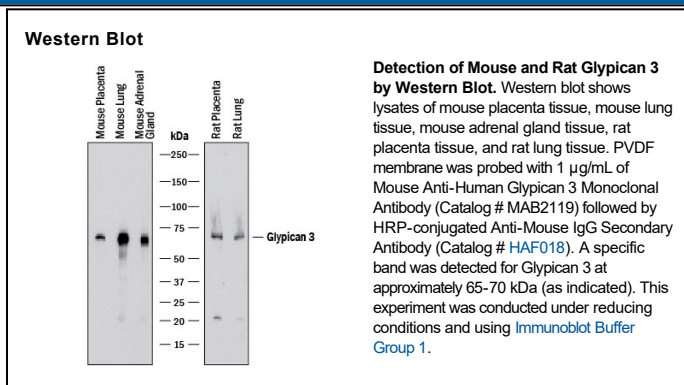
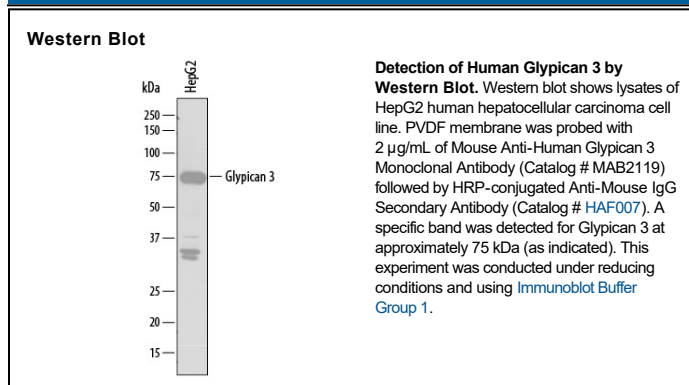
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human Glypican 3 in ELISAs. Detects human, mouse, and rat Glypican 3 in Western blots. Does not cross-react with recombinant human (rh) Glypican-2, rhGlypican-5, or rhGlypican-6.
Source	Monoclonal Mouse IgG _{2A} Clone # 307801
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Glypican 3 Gln25-Val558 Accession # P51654.1
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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
Western Blot	1-2 µg/mL	See Below
Flow Cytometry	2.5 µg/10 ⁶ cells	HepG2 human hepatocellular carcinoma cell line
Immunocytochemistry	3-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Glypicans (GPC) are a family of heparan sulfate proteoglycans that are attached to the cell surface by a glycosylphosphatidylinositol (GPI) anchor. Six members of this family have been identified in mammals (GPC1-GPC6). All glypican core proteins contain an N-terminal signal peptide, a large globular cysteine-rich domain (CRD) with 14 invariant cysteine residues, a stalk-like region containing the heparan sulfate attachment sites, and a C-terminal GPI attachment site. While glypican proteins do not share strong amino acid sequence identity (they range from 17-63%), the conserved cysteine residues in their CRDs suggests similarity in their three-dimensional structure (1, 2).

Mutations in GPC3 cause a rare disorder in humans, Simpson-Golabi-Behmel Syndrome, which is characterized by pre and postnatal overgrowth of multiple tissues and organs and an increased risk for developing embryonic tumors (3). These features are also present in the mouse knock-out of GPC3 indicating that GPC3 regulates cell survival and inhibits cell proliferation during development (4). Glypican 3 has been implicated in regulating many different signaling pathways including: IGF, FGF, BMP, and Wnt. An endoproteolytic processing of GPC3 by proprotein convertases is required for the modulation of Wnt signaling (5). Direct interaction with FGF-basic has been observed and is mediated by the heparan sulfate chains (6).

References:

1. Filmus, J. and S.B. Selleck (2001) *J. Clinical Invest.* **108**:497.
2. De Cat, B and G. David (2001) *Seminars in Cell & Dev. Biol.* **12**:117.
3. Pilia, G. *et al.* (1996) *Nat. Genet.* **12**: 241.
4. Cano-Gauci, D.F. *et al.* (1999) *J. Cell Biol.* **146**: 255.
5. De Cat, B. *et al.* (2003) *J. Cell Biol.* **163**:625.
6. Song, H.H. *et al.* (1997) *J. Biol. Chem.* **272**:7574.