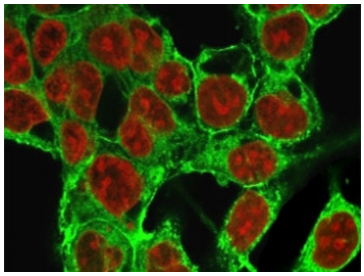
Glypican-3 Antibody [clone SGPN3-1] (V7027)

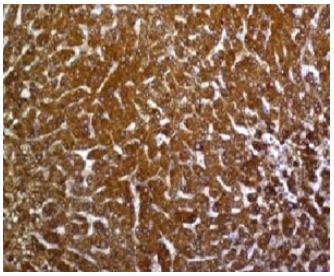
Catalog No.	Formulation	Size
V7027-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7027-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7027SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7027IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

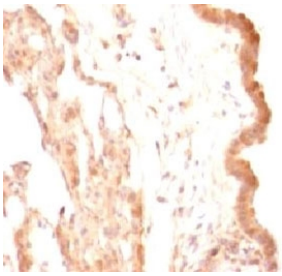
Availability	1-3 business days
Species Reactivity	Human, Rat
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SGPN3-1
Purity	Protein G affinity chromatography
UniProt	P51654
Localization	Cytoplasmic
Applications	Flow Cytometry : 1-2ug/million cells Immunofluorescence : 1-2ug/ml Immunohistochemistry (FFPE) : 0.5-1ug/ml for 30 min at RT (1) Prediluted IHC Only Format : incubate for 30 min at RT (2)
Limitations	This Glypican-3 antibody is available for research use only.



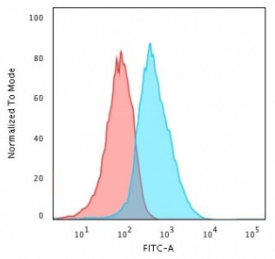
Immunofluorescent staining of methanol-fixed HepG2 cells with Glypican-3 antibody (green, clone SGPN3-1) and Reddot nuclear stain (red).



IHC testing of FFPE human hepatocellular carcinoma with Glypican-3 antibody (clone SGPN3-1).



IHC testing of FFPE rat lung with Glypican-3 antibody (clone SGPN3-1).



Flow cytometry testing of PFA-fixed human HepG2 cells with Glypican-3 antibody (clone SGPN3-1); Red=isotype control, Blue= Glypican-3 antibody.

Description

Glypican-3 antibody (clone SGPN3-1) detects Glypican-3 (GPC3), a cell surface heparan sulfate proteoglycan that regulates growth factor signaling and cell proliferation. The UniProt recommended name is Glypican-3 (GPC3). This protein is anchored to the plasma membrane through a glycosylphosphatidylinositol (GPI) linkage and belongs to the glypican family, which modulates the activity of morphogens such as Wnt, Hedgehog, and fibroblast growth factors. GPC3 is expressed during embryonic development but is typically absent or very low in most adult tissues, except in the placenta and certain mesothelial cells.

Glypican-3 antibody (clone SGPN3-1) recognizes the mature GPC3 protein of approximately 65 kDa and its processed 40 kDa and 30 kDa subunits that result from internal cleavage by furin-like convertases. The antibody detects both membrane-bound and secreted forms of GPC3, making it useful for examining developmental signaling and tumor-associated expression patterns. Clone SGPN3-1 has been validated by commercial sources for detecting GPC3 in formalin-fixed, paraffin-embedded tissues and cultured cells, demonstrating strong reactivity with hepatocellular carcinoma and related tumor types.

The GPC3 gene is located on the X chromosome (Xq26.2) and encodes a 580-amino-acid core protein that carries heparan sulfate side chains near the C-terminus. Loss-of-function mutations in GPC3 cause Simpson-Golabi-Behmel syndrome, a congenital overgrowth disorder. In contrast, GPC3 is aberrantly overexpressed in hepatocellular carcinoma, where it promotes cell proliferation and suppresses apoptosis by modulating Wnt and Yap/Taz signaling. GPC3 also interacts with insulin-like growth factor 2 (IGF2), influencing growth and metabolic regulation.

At the tissue level, GPC3 is highly expressed in fetal liver, lung, and kidney, but expression is minimal in normal adult hepatocytes. In hepatocellular carcinoma and certain germ cell tumors, GPC3 reappears and localizes to both the cell membrane and cytoplasm. Its restricted expression pattern and tumor-specific reactivation have established GPC3 as a diagnostic and therapeutic target, especially in liver cancer research and immunotherapy development.

Clone SGPN3-1 provides strong and specific detection of GPC3 in immunohistochemical and immunofluorescent staining. It yields consistent membrane and cytoplasmic labeling with low background, supporting its use in tumor classification, developmental biology, and GPI-anchored protein research. Glypican-3 antibody (clone SGPN3-1) is suitable for detecting GPC3 expression in research investigating cancer, tissue differentiation, and growth factor signaling. NSJ Bioreagents supplies Glypican-3 antibody (clone SGPN3-1) validated for use in relevant research applications supporting studies in developmental and cancer biology.

Application Notes

Optimal dilution of the Glypican-3 antibody should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 min
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant full-length human GPC3 protein was used as the immunogen for the Glypican-3 antibody.

Storage

Store the Glypican-3 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).