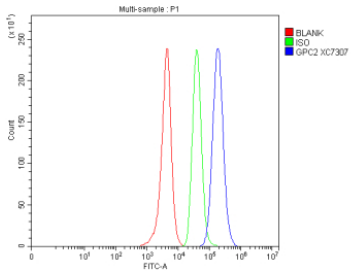
GPC2 Antibody / Glypican 2 (FY12395)

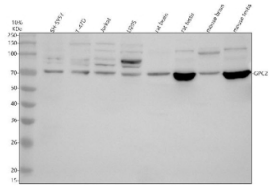
Catalog No.	Formulation	Size
FY12395	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8N158
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This GPC2 antibody is available for research use only.



Flow Cytometry analysis of SH-SY5Y cells using anti-GPC2 antibody. Overlay histogram showing SH-SY5Y cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-GPC2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of GPC2 using anti-GPC2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human SH-SY5Y whole cell lysates, Lane 2: human T-47D whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human U2OS whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat testis tissue lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GPC2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. GPC2 (~63 kDa predicted) was detected at ~70 kDa, consistent with the N-linked glycosylated and GPI-anchored mature form of the glypican-2 core protein.

Description

The GPC2 antibody targets Glypican-2, a cell surface heparan sulfate proteoglycan encoded by the GPC2 gene. Glypican-2 is a member of the glypican family that anchors to the plasma membrane via a glycosylphosphatidylinositol (GPI) linkage. It modulates signaling pathways such as Wnt, Hedgehog, and fibroblast growth factor (FGF), thereby influencing cell proliferation, differentiation, and neural development. The GPC2 antibody provides researchers with a high-specificity reagent to study membrane-associated signaling regulation and neurodevelopmental processes.

Glypican-2 is predominantly expressed in the developing nervous system, where it regulates neurite outgrowth and synaptic organization. By binding heparan sulfate chains to morphogens and growth factors, GPC2 fine-tunes signal transduction gradients essential for brain patterning. The GPC2 antibody supports detection of this proteoglycan in neuronal cultures and brain tissue, allowing exploration of its role in axonal guidance and synaptic plasticity. GPC2 also interacts with cell adhesion molecules to influence neuronal connectivity during development.

Recent research has identified Glypican-2 as a cell surface oncoprotein in pediatric neuroblastoma. Overexpression of GPC2 enhances cell proliferation and tumor growth through sustained activation of oncogenic signaling pathways. The GPC2 antibody supports investigation of this function, enabling measurement of expression levels in tumor samples and evaluation of therapeutic targeting potential. Antibody-drug conjugates and immunotherapies directed against GPC2 are currently under study for selective tumor eradication.

Beyond neuroblastoma, Glypican-2 contributes to neuronal regeneration and neural stem cell regulation. Its heparan sulfate chains bind multiple signaling ligands, positioning GPC2 as a key modulator of microenvironmental signaling. The GPC2 antibody helps map these ligandÃ¯Â¿Â½receptor interactions and track expression changes during neuronal differentiation. Reduced expression of GPC2 has been linked to impaired synaptic signaling, suggesting its importance in maintaining neural circuit stability.

The GPC2 antibody is validated for western blotting, flow cytometry, and immunofluorescence, showing clear cell surface localization consistent with GPI-anchored proteins. NSJ Bioreagents provides this antibody as a validated reagent for reproducible detection in developmental, neurological, and oncology research. By supporting detailed study of Glypican-2 structure and function, the GPC2 antibody advances understanding of membrane-bound proteoglycans in cell signaling and neuroblastoma biology.

Application Notes

Optimal dilution of the GPC2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Glypican 2/GPC2 recombinant protein (Position: E25-D498) was used as the immunogen for the

GPC2 antibody.

Storage

After reconstitution, the GPC2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.