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GPC3 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1722a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	P51654
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	9C2
Isotype	IgG1
Calculated MW	65563
Description	Cell surface heparan sulfate proteoglycans are composed of a membrane-associated protein core substituted with a variable number of heparan sulfate chains. Members of the glypican-related integral membrane proteoglycan family (GRIPS) contain a core protein anchored to the cytoplasmic membrane via a glycosyl phosphatidylinositol linkage. These proteins may play a role in the control of cell division and growth regulation. The protein encoded by this gene can bind to and inhibit the dipeptidyl peptidase activity of CD26, and it can induce apoptosis in certain cell types. Deletion mutations in this gene are associated with Simpson-Golabi-Behmel syndrome, also known as Simpson dysmorphia syndrome. Alternative splicing results in multiple transcript variants.
Immunogen	Purified recombinant fragment of human GPC3 expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	2719
Other Names	Glypican-3, GTR2-2, Intestinal protein OCI-5, MXR7, Secreted glypican-3, GPC3, OCI5
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GPC3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GPC3
Synonyms	OCI5
Function	Cell surface proteoglycan (PubMed: 14610063). Negatively regulates the hedgehog signaling pathway when attached via the GPI- anchor to the cell surface by competing with the hedgehog receptor PTC1 for binding to hedgehog proteins (By similarity). Binding to the hedgehog protein SHH triggers internalization of the complex by endocytosis and its subsequent lysosomal degradation (By similarity). Positively regulates the canonical Wnt signaling pathway by binding to the Wnt receptor Frizzled and stimulating the binding of the Frizzled receptor to Wnt ligands (PubMed:16227623, PubMed:24496449). Positively regulates the non-canonical Wnt signaling pathway (By similarity). Binds to CD81 which decreases the availability of free CD81 for binding to the transcriptional repressor HHEX, resulting in nuclear translocation of HHEX and transcriptional repression (By similarity). Inhibits the dipeptidyl peptidase activity of DPP4 (PubMed:17549790). Plays a role in limb patterning and skeletal development by controlling the cellular response to BMP4 (By similarity). Modulates the effects of growth factors BMP2, BMP7 and FGF7 on renal branching morphogenesis (By similarity). Required for coronary vascular development (By similarity). Plays a role in regulating cell movements during gastrulation (By similarity).
Cellular Location	Cell membrane; Lipid-anchor, GPI-anchor {ECO:0000250|UniProtKB:P13265}; Extracellular side {ECO:0000250|UniProtKB:P13265}
Tissue Location	Detected in placenta (at protein level) (PubMed:32337544). Highly expressed in lung, liver and kidney

References

1. Int J Cancer. 2010 Mar 15;126(6):1291-301. 2. Cancer Biol Ther. 2009 Dec;8(24):2329-38.

Images

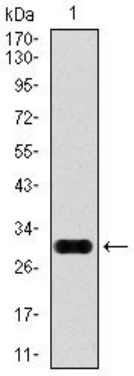
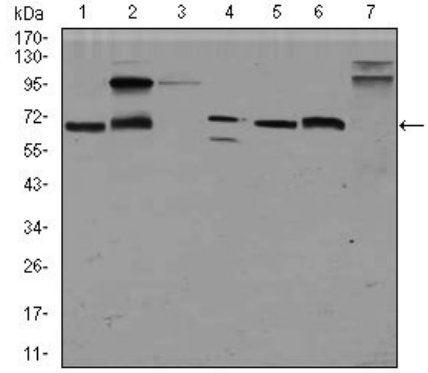


Figure 1: Western blot analysis using GPC3 mAb against human GPC3 (AA: 55-200) recombinant protein. (Expected MW is 28.5 kDa)

Figure 2: Western blot analysis using GPC3 mouse mAb against HepG2 (1), HEK293 (2), Jurkat (3), SK-N-SH (4), PC-12 (5), F9 (6)and Mouse liver (7) cell lysate.



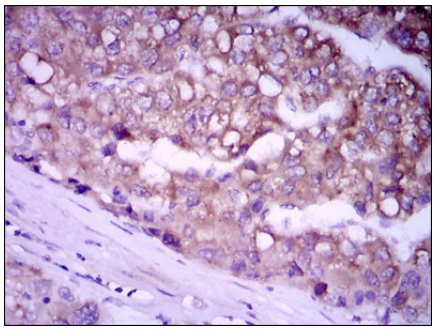


Figure 3: Immunohistochemical analysis of paraffin-embedded liver cancer tissues using GPC3 mouse mAb with DAB staining.

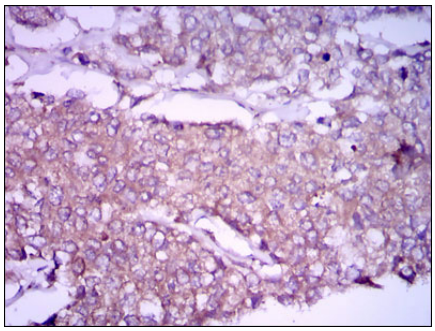


Figure 4: Immunohistochemical analysis of paraffin-embedded breast cancer tissues using GPC3 mouse mAb with DAB staining.

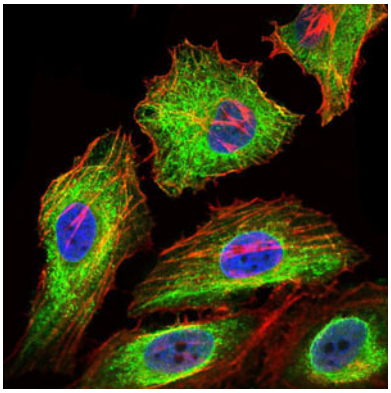


Figure 5: Immunofluorescence analysis of HeLa cells using GPC3 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

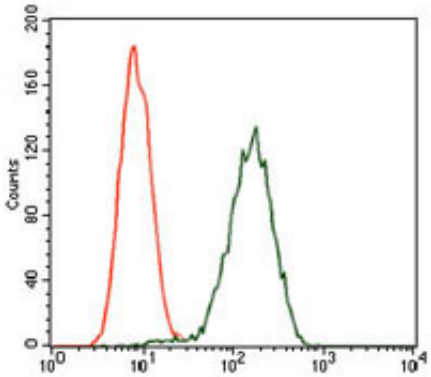


Figure 6: Flow cytometric analysis of Jurkat cells using GPC3 mouse mAb (green) and negative control (red).