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Glypican-3 (GPC3) (Hepatocellular Carcinoma Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone 1G12 + GPC3/863]
Catalog # AH11323

Product Information

Application	IHC, IF, FC
Primary Accession	P51654
Other Accession	2719, 644108
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG's
Clone Names	1G12 + GPC3/863
Calculated MW	65563

Additional Information

Gene ID	2719
Other Names	Glypican-3, GTR2-2, Intestinal protein OCI-5, MXR7, Secreted glypican-3, GPC3, OCI5
Application Note	IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Glypican-3 (GPC3) (Hepatocellular Carcinoma Marker) Antibody - With BSA and Azide 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

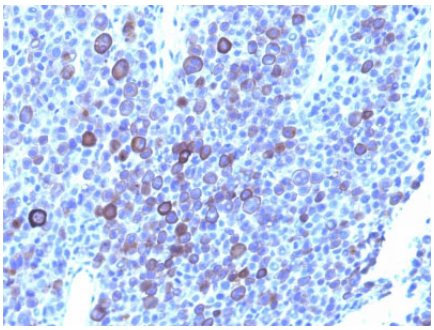
Background

Glypican-3 (GPC3) is an integral membrane protein that is mutated in the Simpson-Golabi-Behmel syndrome (SGBS). SGBS is characterized by pre- and post-natal overgrowth and is a recessive X-linked condition. GPC3 may also be found in a secreted form. Anti-GPC3 has been identified as a useful tumor marker for the diagnosis of hepatocellular carcinoma (HCC), hepatoblastoma, melanoma, testicular germ cell tumors, and Wilm s tumor. In patients with HCC, GPC3 is overexpressed in neoplastic liver tissue and elevated in serum, but is undetectable in normal liver, benign liver, and the serum of healthy donors. GPC3 expression is also found to be higher in HCC liver tissue than in cirrhotic liver or liver with focal lesions such as dysplastic nodules and areas of hepatic adenoma (HA) with malignant transformation. In the context of testicular germ cell tumors, GPC3 expression is up regulated in certain histologic subtypes, specifically yolk sac tumors and choriocarcinoma. A high level of GPC3 expression has also been found in some types of embryonal tumors, such as Wilm s tumor and hepatoblastoma, with a low or undetectable expression in normal adjacent tissue. In patients with thyroid cancer, expression of GPC3 is dramatically enhanced in certain types of cancers: 100% in follicular carcinoma and 70% in papillary carcinoma. Expression of GPC3 in follicular carcinoma was significantly higher than that of follicular adenoma. In contrast, GPC 3 is not expressed in anaplastic carcinoma.

References

Yan, B., et al. 2011. Expression and clinicopathologic significance of glypican 3 in hepatocellular carcinoma. Ann. Diagn. Pathol. 15: 162-169. | Ning, S., et al. 2012. Glypican-3, a novel prognostic marker of hepatocellular cancer is related with postoperative metastasis and recurrence in hepatocellular cancer patients. Mol. Biol. Rep. 39: 351-357. | Zhang, L., et al. 2012. Glypican-3 as a potential differential diagnosis marker for hepatocellular carcinoma: a tissue microarray-based study. Acta Histochem. 114: 547-552

Images



Formalin-fixed, paraffin-embedded human Melanoma stained with Glypican-3 Monoclonal Antibody (1G12 + GPC3/863)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.