abcam

ab303587

PE Anti-Glypican 3 antibody [SP86]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	SP86
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/500

Notes	-

ICC/IF

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information GPC3

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).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Glypican 3 also known as GPC3 is a cell surface heparan sulfate proteoglycan with a core protein mass of approximately 70 kDa. This target is anchored to the external cell membrane through a glycosylphosphatidylinositol (GPI) anchor. Glypican 3 is expressed mainly in tissues such as the liver and kidneys and plays a role in modulating cell growth and development. In research studies it is often studied in various species including in the mouse and cynomolgus monkey models where it's referred to as mouse glypican 3 and cynomolgus glypican 3 respectively.
Biological function summary	Glypican 3 is involved in the modulation of signaling pathways that control cell proliferation and differentiation. It does not function as an isolated element; it has a role as part of a complex network that interacts with growth factors morphogens and other proteoglycans. Glypican 3 assists in the regulation of important biological events by influencing the accessibility and activity of signaling molecules on the cell surface. Its heparan sulfate chains interact with multiple proteins modifying their function and availability.

Pathways	Glypican 3 plays a significant part in the Wnt and Hedgehog signaling pathways. In the Wnt pathway it regulates the distribution and gradient formation of Wnt proteins which are essential for proper embryonic development. In the Hedgehog pathway glypican 3 modulates the distribution and activity of Hedgehog proteins important for tissue patterning and organogenesis. Other proteins closely related to glypican 3 in these pathways include those from the frizzled family in the Wnt pathway and Patched proteins in the Hedgehog pathway.
Associated diseases and disorders	Glypican 3 has a strong connection to hepatocellular carcinoma (HCC) and Simpson-Golabi-Behmel syndrome (SGBS). In HCC increased expression of glypican 3 is often observed which associates it with tumor growth and proliferation. It functions alongside other oncogenic factors like alpha-fetoprotein (AFP) which is another marker for liver cancer. In SGBS mutations in the GPC3 gene result in defects in cellular signaling pathways leading to developmental abnormalities. This syndrome highlights the impact of glypican 3 on growth regulation and its interactions with insulin-like growth factors (IGFs).

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

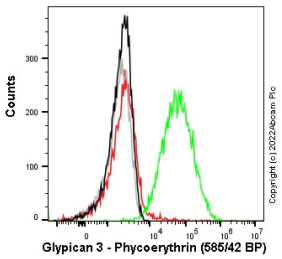
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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Terms & Conditions.

1 product image



Flow Cytometry - PE Anti-Glypican 3 antibody [SP86] (ab303587)

Glypican 3 Flow Cytometry staining of wild-type HAP1 (green line) and GPC3 knockout HAP1 cells using rabbit Anti-Glypican 3 antibody

Flow cytometry overlay histogram showing wild-type HAP1 (green line) and GPC3 knockout HAP1 cells stained with ab303587 (red line). The cells were incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab303587) (1x106 in 100µl at 1µg/ml) for 30 min at 4°C.

Isotype control antibody Rabbit IgG (monoclonal) Phycoerythrin (ab209478) was used at the same concentration and conditions as the primary antibody (wild-type HAP1 - black line GPC3 knockout HAP1 - grey line). Unlabeled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5000 events were collected using a 50 mW Yellow/Green laser (561 nm) and 585/42 bandpass filter.

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