GLYPICAN 3 (1G12)

Format	Catalog No.	Pack size	Dilution
Concentrated	G0124 A, B, C	0.1, 0.5, 1.0 mL	1:100 - 200
Prediluted	G0124 AA, BB	6.0, 3.0 mL	Ready to use

ANTIBODY SPECIFICATIONS

- **HOST SPECIES**: Rabbit
- **CLONE**: 1G12
- **ISOTYPE**: IgG1
- **CELLULAR LOCALIZATION**: Cytoplasmic
- **IMMUNOGEN**: Recombinant fragment of human glypican-3
- **MOLECULAR WEIGHT**: ~67 kDa
- **SPECIES REACTIVITY:** Human
- **POSITIVE CONTROLS:** Bone Marrow, Placenta, Tonsil, Liver, Prostate, Adrenal, Spleen, Colon, Pancreas, Fallopian Tube

INTENDED USE

This antibody is intended **for research use only (RUO)** and is not approved for diagnostic or therapeutic applications. It is optimized for the detection of Glypican 3 protein in formalin-fixed, paraffin-embedded (FFPE) human tissues by immunohistochemistry (IHC).

SUMMARY AND APPLICATION

Glypican 3, or GPC3, is a gene found in humans. This gene encodes a protein that belongs to the glypican family. Heparan sulphate proteoglycans on the cell surface are made up of a membrane-associated protein core that has had a variable number of heparan sulphate chains added to it. A glycosyl-phosphatidylinositol bond holds the core protein of members of the glypican-related integral membrane proteoglycan family (GRIPS) to the cytoplasmic membrane. These proteins might be involved in the regulation of growth and cell division.

SCIENTIFIC BACKGROUND

Glypican-3 antibody has been found to be a valuable tumour marker for the diagnosis of Wilms tumour, testicular germ cell tumours, hepatoblastoma, melanoma, and hepatocellular carcinoma (HCC). GPC3 was not detectable in normal liver, benign liver, or the serum of healthy donors, but it was overexpressed in neoplastic liver tissue and raised in serum in patients with HCC. Additionally, compared to cirrhotic liver or liver with specific lesions like dysplastic nodules and regions of hepatic adenoma (HA) with malignant transformation, GPC3 expression was observed to be greater in HCC liver tissue. GPC3 expression is elevated in some histologic categories, including choriocarcinoma and yolk sac tumours, in relation to testicular germ cell tumours. Certain kinds of embryonal tumours, including hepatoblastoma and Wilms tumour, have also been shown to express GPC3 at significant levels.

RECOMMENDED USAGE

- **IHC Protocol Highlights:**

  - Dilution: 1–2 µg/mL
  - Incubation: 30 minutes at room temperature
  - Antigen Retrieval: Heat in 10 mM Tris with 1 mM EDTA (pH 9.0) at 95°C for 45 minutes, followed by cooling
- **Specimen Type**: FFPE sections, preferably ~4 µm

FORMULATION & STORAGE:

- Buffer: 10 mM PBS, 0.05% BSA, 0.05% sodium azide
- Storage:
  - Dilution: 1–2 µg/Ml
  - Without azide: –20 to –80°C
- Shelf Life: 24 months under proper conditions
- Hazard Classification: Non-hazardous; no MSDS required

LIMITATIONS

- Interpretation must be made by a qualified pathologist
- Tissue fixation and handling may affect staining quality
- Negative results do not always indicate absence of antigen—consider panel testing

PRECAUTIONS

- Contains 0.05% sodium azide – avoid ingestion and contact with skin or mucosa
- Wear gloves and avoid contact with eyes or mucosa
- Do not use reagents past expiration or if packaging appears compromised
- Do not pipette by mouth or reuse slides/containers without proper sterilization

TECHNICAL SUPPORT

For technical assistance, please contact Genebio Solution's Technical Support at www.genebiosolution.com