Glypican-3

Concentrated and Prediluted Monoclonal Antibody
902-396-090519

BIOCARE MEDICAL

Catalog Number:	**ACR 396 A, B**	**APR 396 AA**
Description:	0.1, 0.5 mL conc.	6.0 mL, RTU
Dilution:	1:100	Ready-to-use
Diluent:	Renoir Red	N/A

Intended Use:
For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:
Glypican-3 (GPC3), a member of the glypican family of glycosyl phosphatidylinositol-anchored cell-surface heparin sulfate proteoglycans, plays an important role in cell growth and differentiation (1). Using the 1G12 monoclonal antibody, GPC3 has been identified as a useful tumor marker for the diagnosis of Hepatocellular Carcinoma (HCC), hepatoblastoma, melanoma, testicular germ cell tumors, and Wilms' tumor. GPC3 protein has been shown to be expressed in most hepatocellular carcinomas (HCC), but not in normal liver nor benign hepatic lesions, including dysplastic and cirrhotic nodules (1-4). Most patients with HCC have significantly elevated serum protein levels of GPC3 (3). Several studies report that GPC3 is a sensitive diagnostic marker for HCC and a tool for differentiating HCC from non-neoplastic and pre-neoplastic liver disease (3,4). In-house TMA-based studies have shown that GPC3 is positive in 90.4% (66/73) of hepatocellular carcinoma cases, and negative in 100% of cholangiocellular carcinoma, normal liver and hyperplasia cases.

Principle of Procedure:
Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a secondary antibody is added to bind to the primary antibody. An enzyme label is then added to bind to the secondary antibody; this detection of the bound antibody is evidenced by a colorimetric reaction.

Source: Mouse monoclonal
Species Reactivity: Human
Clone: 1G12
Isotype: IgG1
Protein Concentration: Call for lot specific Ig concentration.
Epitope/Antigen: C-terminal 70 amino acids
Cellular Localization: Membrane and cytoplasm
Positive Tissue Control: Hepatocellular carcinoma

Known Applications:
Immunohistochemistry (formalin-fixed paraffin-embedded tissues)
Supplied As: Buffer with protein carrier and preservative

Storage and Stability:
Store at 2ºC to 8ºC. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2ºC to 8ºC.

Staining Protocol Recommendations (intelliPATH FLX® and manual use):
Peroxide Block: Block for 5 minutes with Peroxidazed 1.
Pretreatment: Perform heat retrieval using Diva Decloaker. Refer to the Diva Decloaker data sheet for specific instructions.
Protein Block (Optional): Incubate for 5-10 minutes at RT with Background Punisher.
Primary Antibody: Incubate for 30 minutes at RT.
Probe: Incubate for 10 minutes at RT with a secondary probe.
Polymer: Incubate for 10-20 minutes at RT with a tertiary polymer.
Chromogen: Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Warp Red.

Staining Protocol Recommendations (intelliPATH FLX and manual use) Cont'd:
Counterstain: Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:
This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS buffer for washing steps.

Limitations:
This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

Precautions:
1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN_3) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (5)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (6)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at http://biocare.net.

Technical Support:
Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

References:
1. Kandil DH, Cooper K. Glypican-3: a novel diagnostic marker for hepatocellular carcinoma and more. Adv Anat Pathol. 2009 Mar; 16(2): 125-9.
2. Shirakawa H, *et al.* Glypican-3 is a useful diagnostic marker for a component of hepatocellular carcinoma in human liver cancer. Int J Oncol. 2009 Mar; 34(3): 649-56.
3. Wang XY, *et al.* Glypican-3 expression in hepatocellular tumors: diagnostic value for preneoplastic lesions and hepatocellular carcinoma. Human Pathol. 2006 Nov; 37 (11): 1435-41.
4. Libbrecht L, *et al.* Glypican-3 expression distinguishes small hepatocellular carcinoma from cirrhosis, dysplastic nodules, and focal nodular hyperplasia-like nodules. Am J Surg Pathol. Nov; 30(11): 1405-11.

Biocare Medical
60 Berry Drive
Pacheco, CA 94553
USA

Tel: 800-799-9499 | www.biocare.net | Fax: 925-603-8080

References Cont'd:
5. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
6. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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