Human IgG

Concentrated and Prediluted Monoclonal Antibody
Control Number: 901-3185-110918

BIOCARE MEDICAL

Catalog Number:	**ACI 3185 A, B**	**API 3185 AA**
Description:	0.1, 0.5 mL, conc.	6.0 mL, RTU
Dilution:	1:100	Ready-to-use
Diluent:	Van Gogh Yellow	N/A

Intended Use:

For In Vitro Diagnostic Use

Human IgG [RWP49] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of human immunoglobulin (IgG) protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

Summary and Explanation:

Immunoglobulin G (IgG) is an antibody isotype secreted by plasma cells and composed of four peptide chains – two identical heavy chains and two identical light chains arranged in a Y-shape typical of antibody monomers (1). In humans, IgG consists of four subclasses that differ only marginally in their amino acid composition (1). Representing approximately 75% of serum immunoglobulins in humans, IgG is the most abundant antibody isotype found in the circulation (1). Anti-IgG had been proven useful in the assessment of renal biopsies (2), autoimmune disorders (3), in the identification of plasma cell neoplasms (4) and in non-Hodgkin lymphomas (5). The ratio of IgG4+ plasma cells to IgG+ plasma cells has been considered important in making a diagnosis of IgG4-related disorders (6).

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; others not tested
Clone: RWP49
Isotype: IgG1
Protein Concentration: Call for lot specific Ig concentration.
Epitope/Antigen: Human immunoglobulin G (IgG)
Immunogen: Prokaryotic recombinant protein corresponding to 327 amino acids of the human IgG molecule
Cellular Localization: Cytoplasmic/cell membrane
Positive Tissue Control: Tonsil

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.

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.

Protocol Recommendations (intelliPATH FLX and manual use) Cont'd:

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.
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 for washing steps.

Limitations:

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

Quality Control:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA (www.clsi.org). 2011

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) (7)
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 into contact with sensitive areas, wash with copious amounts of water. (8)
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.

Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

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References:

1. Junqueira LC, Carneiro J. Basic Histology. McGraw-Hill, 2003.
2. Shi S, *et al.* Immunohistochemistry of deparaffinized sections using antigen retrieval with microwave combined pressure cooking versus immunofluorescence in the assessment of human renal biopsies. J Clin Pathol. 2013;66:374-80.
3. Abe K, *et al.* The utility of IgG, IgM, and CD138 immunohistochemistry in the evaluation of autoimmune liver diseases. Med Mol Morphol. 2014;47:162-8.
4. MaKenna RW, *et al.* Plasma cell neoplasms. WHO classification of tumours of hematopoietic and lymphoid tissues. 2008, 200-13.
5. Lindemalm C, *et al.* Prognostic significance of immunoglobulin isotype expression in B-cell non-Hodgkin's lymphoma. Med Oncol Tumor Pharmacother. 1988;5:243-8.
6. Sepehr A, *et al.* IgG4+ to IgG+ plasma cells ratio of ampulla can help differentiate autoimmune pancreatitis from other "mass forming" pancreatic lesions. Am J Surg Pathol. 2008;32:1770-9.
7. 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."
8. 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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