

# Thyroglobulin Cocktail

Concentrated and Prediluted Cocktail Antibody  
901-022-110217

**BIOCARE**  
M E D I C A L

<b>Catalog Number:</b>	<b>CM 022 A</b>	<b>PM 022 AA</b>	<b>IP 022 G10</b>
<b>Description:</b>	0.1 ml, concentrated	6.0 ml, prediluted	10 ml, prediluted
<b>Dilution:</b>	1:100	Ready-to-use	Ready-to-use
<b>Diluent:</b>	Da Vinci Green	N/A	N/A

## Intended Use:

For In Vitro Diagnostic Use

Thyroglobulin Cocktail [2H11 + 6E1] is a mouse monoclonal antibody cocktail that is intended for laboratory use in the qualitative identification of thyroglobulin 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:

Studies have shown this antibody recognizes a glycoprotein of 330 kDa, identified as thyroglobulin. Thyroglobulin has been shown to be useful in positive identification of thyroid carcinomas of the papillary and follicular types (1,2,4). Biocare's cocktail of 2H11 and 6E1 antibodies stains thyroglobulin in follicular epithelial cells as well as colloid tissue. Demonstration of thyroglobulin in a metastatic lesion establishes the thyroid origin of the tumor. Adenocarcinomas of non-thyroidal origin are not reactive (5-6).

## 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:** 2H11+6E1

**Isotype:** IgG1 /IgG1

**Total Protein Concentration:** ~10 mg/ml. Call for lot specific Ig concentration.

**Epitope/Antigen:** Thyroglobulin

**Cellular Localization:** Cytoplasmic and colloid of follicles

**Positive Tissue Control:** Thyroid or thyroid carcinoma

## Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

## Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

## Protocol Recommendations (intelliPATH and manual use):

**Peroxide Block:** Block for 5 minutes with Biocare's Peroxidized 1.

**Pretreatment:** Perform heat retrieval using Biocare's Diva Decloaker. Refer to the Diva Decloaker data sheet for specific instructions.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Biocare's 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 Biocare's Warp Red.

## Protocol Recommendations (intelliPATH 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.

### intelliPATH™ Automated Slide Stainer:

IP022 is intended for use on the intelliPATH™ Automated Slide Stainer. Refer to the intelliPATH Automated Slide Stainer manual for specific instructions on its use. When using the intelliPATH, peroxide block with intelliPATH Peroxidase Blocking Reagent (IPB5000) may be performed following heat retrieval.

### Technical Note:

This antibody has been optimized for use with Biocare's MACH 4 Universal HRP-Polymer Detection and intelliPATH Universal HRP Detection Kit. 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. The clinical interpretation of any positive or negative staining should be evaluated within the context of clinical presentation, morphology and other histopathological criteria by a qualified pathologist. The clinical interpretation of any positive or negative staining should be complemented by morphological studies using proper positive and negative internal and external controls as well as other diagnostic tests.

### 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<sub>3</sub>) 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 in 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 reagents after the expiration date printed on the vial.

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## Precautions Cont'd:

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.

## References:

1. Abrosimov A. Histologic and immunohistochemical characterization of medullary thyroid carcinoma. *Arkh Patol.* 1996 Jul;58(4):43-8.
2. Pastolero GC, Coire CI, Asa SL. Concurrent medullary and papillary carcinomas of thyroid with lymph node metastases. A collision phenomenon. *Am J Surg Pathol.* 1996 Feb;20(2):245-50.
3. Brasanac D, *et al.* Immunohistochemical analysis of malignant tumors of the thyroid gland using 6 relevant markers. *Srp Arh Celok Lek.* 1996 Mar;121(3-7):70-3.
4. Ghali VS, Jimenez EJ, Garcia RL. Distribution of Leu-7 antigen (HNK-1) in thyroid tumors: its usefulness as a diagnostic marker for follicular and papillary carcinomas. *Hum Pathol.* 1992 Jan;23(1):21-5.
5. Harach HR, Franssila KO. Thyroglobulin immunostaining in follicular thyroid carcinoma: relationship to the degree of differentiation and cell type. *Histopathology.* 1988 Jul;13(1):43-54.
6. Shvero J, *et al.* Anaplastic thyroid carcinoma. A clinical, histologic and immunohistochemical study. *Cancer.* 1988 Jul 15;62(2):319-25.
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.