

GATA-3

Concentrated and Prediluted Monoclonal Antibody
902-405-091917

BIOCARE
M E D I C A L

Catalog Number:	ACR 405 A, B	APR 405 AA
Description:	0.1, 0.5 ml, concentrated	6.0 ml, prediluted
Dilution:	1:100	Ready-to-use
Diluent:	Van Gogh Yellow	N/A

Intended Use:

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

Summary and Explanation:

GATA-3 (GATA binding protein 3) is a member of the GATA family of transcription factors. This 50 kDa nuclear protein regulates the development and subsequent maintenance of multiple tissues. Studies have shown GATA-3 orchestrates gene expression profiles during embryogenesis of a variety of human tissues, including hematopoietic cells, skin, kidney, mammary gland, and the central nervous system (1-5). Among several other roles, GATA-3 has been identified as a key player of luminal cell differentiation in the mammary gland (4). GATA-3 appears to control a set of genes involved in the differentiation and proliferation of breast cancer (3-4). The expression of GATA-3 has a strong association with the expression of estrogen receptor-alpha (ER) in breast cancer, and there is mounting evidence that GATA-3 can be used as a clinical marker to determine response to hormonal therapy and to refine the prognosis of breast cancer patients (3,4,6). GATA-3 has also been shown to be a novel marker for bladder cancer (1-2). In one study, GATA-3 stained 67% of 308 urothelial carcinomas, but none for prostate or renal carcinomas (1).

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. A secondary antibody may be applied to bind the primary antibody, followed by an enzyme labeled polymer; or an enzyme labeled polymer may be applied directly to bind the primary antibody. The detection of the bound primary antibody is evidenced by an enzyme-mediated colorimetric reaction.

Source: Mouse monoclonal

Species Reactivity: Human

Clone: L50-823

Isotype: IgG1/kappa

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

Epitope/Antigen: Peptide between trans-activation and DNA-binding domains of GATA-3

Cellular Localization: Nuclear

Positive Control: Bladder cancer and breast cancer

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.

Staining Protocol Recommendations:

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

Pretreatment Solution (recommended): Reveal

Pretreatment Protocol:

Heat Retrieval Method:

For bladder cancer, retrieve sections under pressure using Biocare's NxGen Decloaking Chamber at 110°C for 15 minutes; alternatively, follow the recommendations in the Decloaking Chamber User Manual if using a different model. For breast cancer, Preheat the retrieval

Staining Protocol Recommendations:

solution to 95°C for 30 minutes and then place slides in the preheated solution if using Biocare's Decloaking Chamber Pro or Decloaking Chamber Plus. If using Biocare's Decloaking Chamber NxGen, place slides into the retrieval solution without preheating. Retrieve at 95°C for 40 minutes. Allow solution to cool for 20 minutes and then wash in distilled water.

Protein Block (Optional): Incubate for 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.

Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:

This antibody has been standardized with Biocare's MACH 4 detection system. Use TBS 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 (NaN₃) 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 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.



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Rev: 062117

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References:

1. Raspollini MR, *et al.* The use of placental S100 (S100P), GATA3 and Napsin A in the differential diagnosis of primary adenocarcinoma of the bladder and bladder metastasis from adenocarcinoma of the lung. *Pathologica*. 2010 Feb; 102(1):33-5.
2. Esheba GE, *et al.* Expression of the urothelial differentiation markers GATA3 and placental S100 (S100P) in female genital tract transitional cell proliferations. *Am J Surg Pathol*. 2009 Mar; 33(3):347-53.
3. Albergaria A, *et al.* Expression of FOXA1 and GATA-3 in breast cancer: the prognostic significance in hormone receptor-negative tumours. *Breast Cancer Res*. 2009; 11(3):R40.
4. Kouros-Mehr H, *et al.* GATA-3 links tumor differentiation and dissemination in a luminal breast cancer model. *Cancer Cell*. 2008 Feb; 13(2):141-52.
5. Voduc D, *et al.* GATA-3 expression in breast cancer has a strong association with estrogen receptor but lacks independent prognostic value. *Cancer Epidemiol Biomarkers Prev*. 2008 Feb; 17(2):365-73.
6. Parikh P, *et al.* GATA-3 expression as a predictor of hormone response in breast cancer. *J Am Coll Surg*. 2005 May; 200(5):705-10.
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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