

## GATA-3

Format	Catalog no.	Pack size	Dilution
Concentrated	GB405A,B	0.1, 0.5 mL	1:100
Prediluted	GB405AA	6.0 mL	Ready to use

**PRODUCT DESCRIPTION -**

GATA-3 (GATA binding protein 3) is a constituent of the GATA family of transcription factors. This 50 kDa nuclear protein governs the development and ongoing maintenance of several tissues. Research indicates that GATA3 regulates gene expression patterns during the embryonic development of various human organs, including hematopoietic cells, skin, kidneys, mammary glands, and the central nervous system. GATA-3 has been recognized as a crucial factor in the development of luminal cells in the mammary gland. GATA-3 seems to regulate a group of genes implicated in the differentiation and proliferation of breast cancer. GATA-3 has been identified as a new biomarker for bladder cancer.

**INTENDED USE -**

GATA-3 [L50-823] is a mouse monoclonal antibody designed for laboratory applications to qualitatively identify GATA binding protein 3 using immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence must be supplemented by morphological studies utilizing appropriate controls and assessed in conjunction with the patient's clinical history and other diagnostic tests by a skilled pathologist.

**SUMMARY AND EXPLANATION -**

GATA-3 (GATA binding protein 3) is a constituent of the GATA family of transcription factors. This 50 kDa nuclear protein governs the development and ongoing maintenance of several tissues. Research indicates that GATA3 regulates gene expression patterns during the embryonic development of various human organs, including hematopoietic cells, skin, kidneys, mammary glands, and the central nervous system. GATA-3 has been recognized as a crucial factor in the development of luminal cells within the mammary gland. GATA-3 seems to regulate a group of genes implicated in the differentiation and growth of breast cancer. The expression of GATA-3 is significantly correlated with the expression of estrogen receptor alpha (ER) in breast cancer, and increasing evidence suggests that GATA-3 may serve as a clinical marker for assessing response to hormonal therapy and enhancing the prognosis of breast cancer patients. GATA-3 has been identified as a new biomarker

for bladder cancer. In a research, GATA-3 was expressed in 67% of 308 urothelial carcinomas, while it was absent in prostate and renal carcinomas.

#### PRINCIPLE OF PROCEDURE -

Antigen detection in tissues and cells is a multi-step immunohistochemistry procedure. The first step attaches the primary antibody to its designated epitope. Following the tagging of the antigen with a primary antibody, a one-, two-, or three-step detection protocol may be utilized. The one-step approach will utilize an enzyme-conjugated polymer that attaches to the main antibody. A two-step approach will involve the addition of a secondary antibody to bind to the primary antibody. An enzyme-conjugated polymer is subsequently introduced to engage with the secondary antibody. The three-step detection protocol will include the addition of a secondary antibody to bind to the main antibody, succeeded by a linker antibody step to enhance binding efficacy. An enzyme-conjugated polymer is subsequently introduced to attach to the linker antibody. The detection of bound antibodies is demonstrated using a colorimetric response.

SOURCE - Mouse monoclonal

SPECIES REACTIVITY - Human

CLONE - L50-823

ISOTYPE - IgG1/kappa

PROTEIN CONCENTRATION - Call for lot specific Ig concentration.

EPITOPE/ANTIGEN - Peptide between trans-activation and DNA-binding domains of GATA-3

CELLULAR LOCALISATION - Nuclear

POSITIVE TISSUE CONTROL - Bladder cancer and breast cancer

KNOWN APPLICATIONS - Immunohistochemistry  
30-40 min. At RT. Staining of formalin-fixed tissues requires heating tissue sections in between pH 7.4 - 9.0 for 45 min at 95°C followed by cooling at room temperature for 20 minutes.

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.

Materials required but not provided -

- 1) Positive tissue control - Bladder cancer and breast cancer
- 2) Negative control tissue (internal or external)
- 3) Microscope slides and coverslips
- 4) Staining jars or baths
- 5) Timer
- 6) Xylene or xylene substitute
- 7) Ethanol or reagent alcohol
- 8) Deionized or distilled water
- 9) Heating equipment or enzyme for tissue pretreatment step
- 10) Detection system
- 11) Chromogen
- 12) Wash buffer
- 13) Hematoxylin
- 14) Antibody diluents
- 15) Peroxide block
- 16) Light microscope
- 17) Mounting medium

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 Genebio products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.