**TTF-1**  
Concentrated and Prediluted Monoclonal Antibody  
902-087-090619

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

**Summary and Explanation:**  
Thyroid transcription factor-1 (TTF-1) contains a homeodomain necessary and sufficient for its DNA-binding activity, and is most closely related to the NKX2 family of homeodomain transcription factors (1,2). TTF-1 is expressed by epithelial cells of thyroid, lung, and in discrete regions of the developing brain (3-6). Studies have shown the specificity of TTF-1 as a marker for pulmonary and thyroid adenocarcinomas, with no reactivity to breast, stomach, ovarian, pancreaticobiliary, kidney, or colorectal adenocarcinomas (7-9). TTF-1 can be very useful in determining tumor origin when used in a panel with CK7, CK20, CDX2, CEA, MUC2, MUCSA4, SMAD4, ER, and GCDFP-15 antibodies (9).

**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; others not tested  
**Clone:** 8G7G3/1  
**Isotype:** IgG1  
**Protein Concentration:** Call for lot specific Ig concentration.  
**Epitope/Antigen:** TTF-1 (Thyroid transcription factor-1)  
**Cellular Localization:** Nuclear  
**Positive Tissue Control:** Lung adenocarcinoma or thyroid

**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. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after the expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

**Staining Protocol Recommendations (intelliPATH FLX® and manual use):**  
**Peroxide Block:** Block for 5 minutes with Peroxidized 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.  
**Counterstain:** Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

**Technical Note:**  
1. Literature reports suggest that high pH antigen retrieval solutions should not be used when staining TTF-1. Therefore, antigen retrieval with Diva (pH 6.2) is strongly recommended.
2. This antibody, for intelliPATH FLX and manual use, has been standardized with 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) (10)
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. (11)
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:**  