PTEN (Tumor Suppressor)  
Concentrated and Prediluted Monoclonal Antibody  
901-278-070319

**Intended Use:**  
For In Vitro Diagnostic Use  
PTEN (Tumor Suppressor) [6H2.1] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of PTEN 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 PTEN gene is a tumor suppressor gene that maps to chromosome 10q23. PTEN, a novel tumor suppressor, functions as a regulator of both cell cycle progression and apoptosis (1-2). Potentially, mutation and deletion of PTEN gene may result in a new signal transduction pathway related to human malignant tumors. Studies have demonstrated a reduction of PTEN expression in advanced breast cancers (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. After labeling the antigen with a primary antibody, a one-, two- or three-step detection procedure can be employed. The one-step procedure will feature an enzyme-labeled polymer that binds to the primary antibody. A two-step procedure will feature a secondary antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind to the secondary antibody. The three-step detection procedure will feature a secondary antibody added to bind to the primary antibody followed by a linker antibody step for maximum binding. An enzyme-labeled polymer is then added to bind to the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

**Source:** Mouse monoclonal

**Species Reactivity:** Human and mouse

**Clone:** 6H2.1

**Isotype:** IgG

**Protein Concentration:** Call for lot specific Ig concentration.

**Epitope/Antigen:** PTEN

**Cellular Localization:** Cytoplasmic

**Positive Tissue Control:** Some breast, renal cell and prostate carcinomas

**Known Applications:**
- Immunohistochemistry (formalin-fixed paraffin-embedded tissues)
- Staining Platform) Cont'd:

**Protocol Recommendations (VALENT Automated Slide Staining Platform):**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Description</th>
<th>Dilution</th>
<th>Diluent</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM 278 AK, BK</td>
<td>0.1, 0.5 mL, conc.</td>
<td>1:200</td>
<td>Renoir Red</td>
</tr>
<tr>
<td>PM 278 AA</td>
<td>6.0 mL, RTU</td>
<td>Ready-to-use</td>
<td>N/A</td>
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<tr>
<td>VLTM 278 G20</td>
<td>20 mL, RTU</td>
<td>Ready-to-use</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Protocol Recommendations (intellIPATH FLX® and manual use):**

**Peroxide Block:** Block for 5 minutes with Peroxidase 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:**
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:**

**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) (3)
Precautions Cont’d:
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. (4)
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.

References: