Pan Cytokeratin [Lu-5]  
Concentrated and Prediluted Monoclonal Antibody  
901-043-072717

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>CM 043 C</th>
<th>PM 043 AA</th>
<th>IP 043 G10</th>
<th>VP 043 G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>1.0 ml, concentrated</td>
<td>6.0 ml, prediluted</td>
<td>10 ml, prediluted</td>
<td>6.0 ml, prediluted</td>
</tr>
<tr>
<td>Dilution</td>
<td>1:100</td>
<td>Ready-to-use</td>
<td>Ready-to-use</td>
<td>Ready-to-use</td>
</tr>
<tr>
<td>Diluent</td>
<td>Da Vinci Green</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Intended Use:**
For In Vitro Diagnostic Use

Pan Cytokeratin [Lu-5] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of most cytokeratin proteins of both the acidic (type I) and basic (type II) subfamilies 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:**
Lu-5 is useful in differentiating epithelial and mesothelial cells from mesenchymal cells in normal and tumor tissues. It serves as a first-order pan cytokeratin antibody for both acidic (type I) and basic type (basic type II) cytokeratin subfamilies of all vertebrates tested so far. Lu-5 stains an intracytoplasmic, formaldehyde-resistant epitope on the surface of cytokeratin filaments. Lu-5 has been shown to be superior to AE1/AE3.

**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, mouse and rat

**Clone:** Lu-5

**Isotype:** IgG1

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

**Epitope/Antigen:** Pan cytokeratin

**Cellular Localization:** Cytoplasmic

**Positive Control:** Skin or adenocarcinoma

**Known Applications:** Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

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

**Storage and Stability:**
Store at 2ºC to 8ºC. 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 2ºC to 8ºC.

**Protocol Recommendations (intelliPATH and manual use):**

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

**Pretreatment:** N/A

**Digestion Method:**
Digest with Pepsin enzyme for 5 minutes at 37ºC -or- for 15-20 minutes at RT.

**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.

**Protocol Recommendations (intelliPATH and manual use):**

**Cont’d:**

**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.

**intelliPATH™ Automated Slide Stainer:**
Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

**Detection:** UltraView

**Pretreatment Protocol:** Digest with Ventana’s Protease #1. Incubate for 16 minutes.

**Primary Antibody:** Incubate for 32 minutes at 37ºC

**Technical Note:**
1. 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 protocol 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:**

**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
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Precautions Cont’d:
Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (3)
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. (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:

*VP Echelon Series antibodies are developed solely by Biocare Medical LLC and do not imply approval or endorsement of Biocare’s antibodies by Ventana Medical Systems, Inc. Biocare and Ventana are not affiliated, associated or related in any way. Ventana®, BenchMark®, ultraView and OptiView are trademarks of Roche.