Cytokeratin 18 (CK18)
Concentrated and Prediluted Monoclonal Antibody
901-3061-071717

Catalog Number: ACI 3061 A, C
Description: 0.1, 1.0 ml, concentrated
Dilution: 1:100-1:200
Diluent: Da Vinci Green

Intended Use:
For In Vitro Diagnostic Use

Cytokeratin 18 (CK18) [DC10] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of cytokeratin 18 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:
Cytokeratin 18 (CK18) is a 45 kDa acidic intermediate filament protein. It is normally coexpressed with cytokeratin 8 and is found in most simple ductal and glandular epithelia (1). The antibody reacts with a wide variety of neoplastic tissues such as gastrointestinal tract, lung, and breast tumors (2-4); whereas tumor cells of nonepithelial origin such as glioma, melanoma and osteosarcoma are not reactive. It also does not react with stratified squamous epithelium on most squamous cell carcinoma. Studies have also shown the reduction of CK18 may be prognostic in certain cancers (5).

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; others not tested
Clone: DC10
Isotype: Mouse IgG1
Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig concentration
Epitope/Antigen: Cytokeratin 18
Cellular Localization: Cytoplasmic

Positive Tissue Control: Colon and skin

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.

Protocol Recommendations Cont’d:  
Polymer: Incubate for 10 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. It can also be used on an automated staining system and with other Biocare polymer detection kits. Use TBS buffer 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 titer(s) 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. 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 Disease Control, 1976, National Institute of Occupational Safety and Health, 1976)

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.

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 MSDS is available upon request and is located at http://biocare.net/support/msds/.

Protocol Recommendations:

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

Pretreatment: Perform heat retrieval using Biocare’s Reveal Decloaker. Refer to the Reveal Decloaker product datasheet for specific instructions.

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.
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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: