Cytokeratin 17 (CK17)

Prediluted Monoclonal Antibody

Control Number: 901-176-090517

Catalog Number: **PM 176 AA**

Description: 6.0 ml, prediluted

Dilution: Ready-to-use

Diluent: N/A

Intended Use:

For In Vitro Diagnostic Use

Cytokeratin 17 (CK17) [Ks 17.E3] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of CK17 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:

CK17 antibody reacts with a 40kDa polypeptide and CK17 is a type I keratin. Studies have shown that it is indicated as an excellent marker for the identification of squamous cell carcinomas in various tissues including the cervix, lung, and oral cavity. CK17 may be helpful to aid in distinguishing myoepithelial cells from luminal epithelium of various glands such as mammary, sweat and salivary. According to studies, expression of CK17 in breast cancer has been associated with a worse prognosis, high tumor grade and positive axillary lymph nodes.

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

Clone: Ks 17.E3

Isotype: IgG2b

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

Epitope/Antigen: Cytokeratin 17 protein

Cellular Localization: Cytoplasmic

Positive Control: Skin

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.

Protocol Recommendations:

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

Pretreatment Solution (recommended): N/A

Pretreatment Protocol: N/A

Digestion Method:

Digest with Pepsin enzyme for 5 minutes at 37ºC -or- for 15 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.

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 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. 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:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA (www.clsi.org). 2011

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 (NaN_3) 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) (6)
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. (7)
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 reagents 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.

Biocare Medical
60 Berry Drive
Pacheco, CA 94553
USA

EC REP EMERGO EUROPE
Prinsessegracht 20
2514 AP The Hague
The Netherlands

IVD CE

Tel: 800-799-9499 | www.biocare.net | Fax: 925-603-8080

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References:

1. van de Rijn M, *et al.* Expression of cytokeratins 17 and 5 identifies a group of breast carcinomas with poor clinical outcome. Am J Pathol. 2002 Dec;161(6):1991-6.
2. Guelstein VI, *et al.* Myoepithelial and basement antigens in benign and malignant human breast tumors. Int J Cancer. 1993 Jan; 53(2):269-77.
3. Lui ZB, *et al.* Basal cytokeratin expression in relation to immunohistochemical and clinical characterization in breast cancer patients with triple negative phenotype. Tumori. 2009 Jan-Feb; 95(1):53-62.
4. Martens JE, *et al.* Cytokeratin 17 and p63 are markers of the HPV target cell, the cervical stem cell. Anticancer Res. 2004 Mar-Apr; 24(2B):771-5.
5. Lerma E, Barnadas A, Prat J. Triple negative breast carcinomas: similarities and differences with basal like carcinomas. Appl Immunohistochem Mol Morphol. 2009 Dec; 17(6):483-94.
6. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
7. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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