



# CD5 (M)

## Concentrated and Prediluted Monoclonal Antibody

Control Number: 901-099-091506

ISO  
9001:2000  
CERTIFIED

**Catalog Number:** CM 099 A, B, C      PM 099 AA  
**Description:** 0.1, 0.5, 1.0 ml, concentrated      6.0 ml, prediluted  
**Dilution:** 1:50 -1:100      Ready-to-use  
**Diluent:** Van Gogh Yellow      N/A

**Protein Block:**  
Incubate for 10-15 minutes at RT with BIOCARE's Background Sniper.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Link:** Incubate for 10 minutes at RT with a link

**Label:** Incubate for 10 minutes at RT with a label.

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

**Summary and Explanation:**  
CD5 is a T-cell associated marker that is also expressed by two B-cell neoplasms; lymphocytic leukemia and mantle cell lymphoma. CD5 antigen is expressed in 95% of thymocytes and 72% of peripheral blood lymphocytes. In lymph nodes, CD5 is mainly reactive with T-cells. It has been shown to react with thymic carcinomas, but rarely in thymomas. It has also been observed in a subset of intravascular large B-cell lymphomas and marks some anaplastic large cell lymphomas. CD5 has proven very useful in marking mantle cell lymphoma when used in tandem with CD23, cyclin D1, and CD10 (CD10 is negative; CD5, cyclin D1 are positive for mantle cell lymphoma).

**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 universal, affinity-purified, 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:** 4C7

**Isotype:** IgG<sub>1</sub>/kappa  
**Total Protein Concentration:** ~10 mg/ml. Call for lot specific Ig Concentration.  
**Epitope/Antigen:** CD5

**Cellular Localization:** Cytoplasmic and cell membrane  
**Positive Control:** Mantle cell lymphoma  
**Normal Tissue:** Tonsil

**Abnormal Tissue:** Mantle cell lymphoma, thymic carcinoma  
**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

**Peroxide Block:**  
If using an HRP system, block for 5 minutes with BIOCARE's PEROXIDAZED 1.

**Pretreatment Solution (recommended):** Borg

**Pretreatment Protocol:**  
Heat Retrieval Method:  
Retrieve sections under pressure using BIOCARE's Decloaking Chamber, followed by a wash in distilled water. Alternatively, steam tissue sections for 45-60 minutes. Allow solution to cool for 20 minutes then wash in distilled water.

**Chromogen:**  
Incubate for 5 minutes at RT when using BIOCARE's DAB. - **OR** - Incubate for 10 minutes at RT when using BIOCARE's Vulcan Fast Red.

**Technical Note:**  
This antibody has been standardized with BIOCARE's 4 plus 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.

**Performance Characteristics:**  
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. These products are tools that can be used for interpretation of morphological findings in conjunction with other diagnostic tests and pertinent clinical data by a qualified pathologist.

**Quality Control:**  
Refer to NCCLS Quality Assurance for Immunocytochemistry approved guidelines, December 1999 MM4-A Vol.19 No.26 for more information about Tissue Controls.

**Precautions:**  
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<sub>3</sub>) 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)

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.

Microbial contamination of reagents may result in an increase in nonspecific staining. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change. The MSDS is available upon request.

**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.

**Limitations and Warranty:**  
There are no warranties, expressed or implied, which extend beyond this description. BIOCARE is not liable for property damage, personal injury, or economic loss caused by this product.

**References:**  
1. Tateyama H, Eimoto T, Tada T, Hattori H, Murase T, Takino H. Immunoreactivity of a new CD5 antibody with normal epithelium and malignant tumors including thymic carcinoma. Am J Clin Pathol 1999 Feb;111(2):235-40.



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CERTIFIED**References cont'd:**

2. Kornstein MJ, Rosai J. CD5 labeling of thymic carcinomas and other nonlymphoid neoplasms. *Am J Clin Pathol* 1998 Jun;109(6):722-6.
3. de Leon ED, Alkan S, Huang JC, Hsi ED. Usefulness of an immunohistochemical panel in paraffin-embedded tissues for the differentiation of B-cell non-Hodgkin's lymphomas of small lymphocytes. *Mod Pathol* 1998 Nov;11(11):1046-51.
4. Khalidi HS, Brynes RK, Browne P, Koo CH, Battifora H, Medeiros LJ. Intra-vascular large B-cell lymphoma: the CD5 antigen is expressed by a subset of cases. *Mod Pathol* 1998 Oct;11(10):983-8.
5. Jeon HJ, Kim CW, Yoshino T, Akagi T. Establishment and characterization of a mantle cell lymphoma cell line. *Br J Haematol* 1998 Sep;102(5):1323-6.
6. Kaufmann O, Flath B, Spath-Schwalbe E, Possinger K, Dietel M. Immunohistochemical detection of CD5 with monoclonal antibody 4C7 on paraffin sections. *Am J Clin Pathol* 1997 Dec;108(6):669-73.
7. 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."
8. National Committee for Clinical Laboratory Standards(NCCLS). Protection of laboratory workers from infectious diseases transmitted by blood and tissue; proposed guideline. Villanova, PA 1991;7(9). Order code M29-P.

