

## CD68 [KP1]

### Prediluted Mouse Monoclonal Antibody

Control Number: 901-033IP-080410

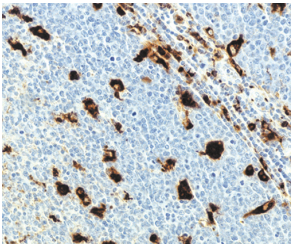
**Catalog Number:** IP 033 G10  
**Description:** 10 ml, predilute

#### Intended Use:

For In Vitro Diagnostic Use

#### Summary and Explanation:

The CD68 antigen is a 110 kDa highly glycosylated transmembrane protein which is mainly located in lysosomes. The antibody stains macrophages in many human tissues including Kupffer's cells and macrophages in the red pulp of the spleen, in lung alveoli, in lamina propria of the gut, and in the bone marrow. Antigen-presenting cells are either negative or show weak and/or restricted areas of reactivity. Peripheral blood monocytes are also positive with granular staining pattern. The antibody reacts with myeloid precursors and peripheral blood granulocytes. In addition, the antibody reacts with plasmacytoid T-cells that are present in many reactive lymph nodes, and are believed to be of monocyte/macrophage origin. The antibody marks the malignant cells in chronic and acute myeloid leukemia. A positive staining of normal and neoplastic mast cells is seen with the antibody, as well as staining of a variable number of cells in malignant melanomas. Studies have shown that CD68 (KP1) is formalin-sensitive and false negatives can occur without proper pretreatment.



Tonsil stained with CD68 antibody.

#### 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:** KP1

**Isotype:** IgG<sub>1</sub>/kappa

**Antibody Category:** Lymphoma

**Epitope/Antigen:** CD68

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

**Cellular Localization:** Cytoplasmic

**Positive Control:** Tonsil

**Normal Tissue:** Tonsil

**Abnormal Tissue:** Histiocytic lymphoma, mast cell tumors

#### 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:

**Pretreatment Solution (recommended):** Reveal

#### 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 10 minutes then wash in distilled water.

**Peroxide Block:** Block for 5 minutes at RT.

#### Protein Block:

**Optional:** Incubate for 5-10 minutes at RT.

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

**Secondary:** Incubate for 10 minutes at RT.

**Tertiary:** Incubate for 10 minutes at RT.

**Chromogen:** Incubate for 5 minutes with DAB at RT.

#### Counterstain:

1. Rinse with deionized water.
2. Incubate for 5 minutes with automated Hematoxylin.
3. Rinse with TBS Buffer for 1 minute followed by a rinse with deionized water.

#### Quality Statement:

Biocare protocols have been standardized using in-house antibodies, detection and accessory reagents for use on the intelliPATH FLX automated stainer. Recommended staining protocols are specified in the datasheet of the antibody of interest. Pre-optimized intelliPATH FLX protocols with preset parameters can be displayed, printed and edited according to the procedure in the operator's manual. Refer to the operator's manual for additional instruction to navigate intelliPATH FLX software and stainer. Use TBS for washing steps unless otherwise specified.

#### 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.



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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.

**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. Petrovichev NN, Christyakova OV, Smirnov AV, Poltoranina VS, Rudinskaya TD. Antimacrophage monoclonal antibody D11 in the diagnosis of tumors of histiocytic origin. *Acta Cytol* 1997 Mar;41(2):357-363.
2. Tupitsyn NN, Frenkel MA, Rudinskaya TD, Poltoranina VS, Sholokhova EN, Lebedeva NB, Probatova NA, Zabolina TN, Shipova LY. Reactivity of antimacrophage monoclonal antibody D11 in human leukemia and malignant lymphoma. *Int J Cancer* 1996 Oct 9;68(2):160-163.
3. Petrovichev NN, Christyakova OV, Smirnov AV, Rudinskaya TD, Poltoranina VS. Anti-macrophage monoclonal antibody D-11 in the diagnosis of histiocytic tumors. *Arkh Patol* 1995 Jul;57(4):25-30.
4. Mullans E, Helm KF. Granuloma annulare: an immunohistochemical study. *J Cutan Pathol* 1994 Apr;21(2):135-139.
5. Horny HP, Ruck P, Xiao JC, Kaiserling E. Immunoreactivity of normal and neoplastic human tissue mast cells with macrophage-associated antibodies, with special reference to the recently developed monoclonal antibody PG-M1. *Hum Pathol* 1993 Apr;24(4):355-358.
6. Carbone A, Gloghini A, Volpe R, Pinto A. KP1 (CD68)-positive large cell lymphomas: a histopathologic and immunophenotypic characterization of 12 cases. *Hum Pathol* 1993 Aug;24(8):886-896.
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.

