PU.1

Concentrated Monoclonal Antibody

Control Number: 901-309-081517

Catalog Number: **CM 309 AK**
Description: 0.1 ml, concentrated
Dilution: 1:50-1:100
Diluent: Renoir Red

Intended Use:

For In Vitro Diagnostic Use

Summary and Explanation:

PU.1 is a 40-42kDa protein and is an Ets-family transcription factor, which regulates the expression of immunoglobulin and other genes that are important for B-cell development. It is expressed in B-lymphocytes and macrophages. PU.1 also appears to be critically involved in the control of monocyte development by regulation of the expression of the macrophage colony-stimulating factor receptor. Results have shown a lack of PU.1 expression by neoplastic cells in classic Hodgkin's disease (cHD), but not in lymphocyte predominant HD. The lack of PU.1 protein expression in cHD likely contributes to the lack of immunoglobulin expression and incomplete B-cell phenotype characteristic of the Reed-Sternberg cells in cHD. Therefore, PU.1 may represent a useful reagent for the interpretation of lymphocyte-predominant Hodgkin's disease.

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, an enzyme labeled polymer is added to bind to the primary antibody. The detection of the bound antibody is evidenced by a colorimetric reaction.

Source: Mouse Monoclonal
Species Reactivity: Human; others not tested
Clone: G148-74
Isotype: IgG2a
Epitope/Antigen: PU.1
Cellular Localization: Nuclear
Positive Control: Lymphocyte Predominant Hodgkin's
Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig Concentration. **Known Applications:**
Immunohistochemistry (formalin-fixed paraffin-embedded tissues)
Supplied As: Buffer with protein carrier and preservative.
Renoir Red Diluent (PD904)

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

Peroxide Block:

Block for 5 minutes with BIOCARE's PEROXIDAZED 1.

Pretreatment Solution (recommended): Diva

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.

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

Protocol Recommendations Cont'd:

Sniper. Primary Antibody: Incubate for 30 minutes at RT.
Probe: N/A

Polymer: Incubate for 30 minutes at RT with a Polymer.

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 MACH 2 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. 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 (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)
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.

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References:

1. Marafioti T et al. (2004) Leukocyte-specific phosphoprotein-1 and PU.1 : two useful markers for distinguishing T-cell-rich- B-cell lymphoma from lymphocyte-predominant Hodgkin's disease. Haematologica. 89(8):957-64.
2. Torlakovic EE et al. (2006) Prognostic significance of PU.1 in follicular lymphoma. J Pathol. 209(3):352-9.
3. Torlakovic E et al. (2001) The transcription factor PU.1 necessary for B-cell development is expressed in lymphocyte predominance, but not classical Hodgkin's disease. Am J Pathol. 159(5):1807-14.
4. 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."
5. 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.

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