IOTest® CD19-FITC / CD5-PE

PN IM1346U – 1 mL Liquid – 20 µL / test*

Analyte Specific Reagent.
Analytical and performance characteristics are not established.

REAGENT COMPONENTS

	Specifications of constituent 1	Specifications of constituent 2
Specificity	CD19	CD5
Clone	J3-119	BL1a
Hybridoma	NS1 x Balb/c	SP2/0-Ag14 x Balb/c
Immunogen	SKLY 18 lymphoma cells	Human thoracic duct lymphocytes
Ig Chain	IgG1	IgG2a
Species	Mouse	Mouse
Source	Ascites fluid	Ascites fluid
Purification	Ion exchange or affinity chromatography	Ion exchange or affinity chromatography
Conjugation	FITC (Fluorescein isothiocyanate)	PE (Phycoerythrin)
Molar Ratio	FITC / Ig: 3 – 10	PE / Ig: 0.5 – 1.5
λ Excitation range	468 – 509 nm	486 – 580 nm
λEmission range	504 – 541 nm (green)	568 – 590 nm (Orange)
Buffer	Buffer (PBS pH 7.2) plus 2 mg / mL BSA and 0.1% NaN_3	

SPECIFICITY
The CD19 antigen is a single chain, type I integral membrane glycoprotein with a molecular weight of 95 kDa (1, 2). The CD19 molecule shows a full B lineage expression, from early pre-B cells to mature B lymphocytes. Its expression is lost during maturation to plasma cells (3, 4). The CD19 antigen is also expressed on the membrane of follicular dendritic cells and on most stabilized B cell lines. CD19 expression is not observed in normal T lymphocytes, NK cells, monocytes, and granulocytes (5). CD19 can be associated within the membrane with other surface molecules to form an hetero-oligomeric structure including CD21, the complement receptor type 2 (CR2), and CD81(TAPA-1) (6).
In vitro studies show that the J3-119 monoclonal antibody (mAb) blocks labelled B4 mAb binding on Raji cells (7). The J3-119 mAb was assigned to the CD19 cluster of differentiation at the 4th International Workshop on Human Leucocyte Differentiation Antigens in Vienna, Austria, in 1989 (1, 2).
The CD5 antigen is a single-chain transmembrane glycoprotein with a molecular weight of 67 kDa (8, 9). The CD5 molecule is expressed on mature T lymphocytes, on most thymocytes and is also present on a subpopulation of B lymphocytes (8 – 11). The CD5 molecule is not expressed on granulocytes, monocytes or platelets (10).
The BL1a mAb was assigned to the CD5 cluster of differentiation at the 3rd International Workshop on Human Leucocyte Differentiation Antigens in Oxford, England, in 1986 (8, 9).

REAGENT
IOTest Conjugated Antibodies
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STATEMENT OF WARNINGS
1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Do not use reagent beyond the expiration date on the vial label.
3. All specimens and samples must be considered as potentially infectious and must be handled with care (in particular: the wearing of protective gloves, gowns and goggles).
4. Do not expose reagents to strong light during storage or incubation.
5. Avoid microbial contamination of reagents or incorrect results might occur.
6. Avoid contact of samples with skin mucosa and eyes. Never pipet by mouth
7. Let it come to room temperature (18 – 25°C) before use.
8. Use general good laboratory practices when handling this reagent.

STORAGE CONDITIONS AND STABILITY
This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. Minimize exposure to light.

EVIDENCE OF DETERIORATION
Any change in the physical appearance of this FITC- and PE-labeled combination (clear, yellowish-green to pinkish liquid) or any major variation in values obtained for control samples may indicate deterioration and the reagent should not be used.

REAGENT PREPARATION
No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

SELECTED RESEARCH REFERENCES

1. "CD Guide " Compiled by the organizing committee, 1989, Leucocyte Typing IV, White Cell Differentiation Antigens. W. Knapp, et al., Eds., Oxford University Press, 1078.
2. "Listing of all Fourth Workshop antibodies", 1989, Leucocyte Typing IV, White Cell Differentiation Antigens. W. Knapp, et al., Eds., Oxford University Press, 1094-1110.
3. Doody, G.M., Dempsey, P.W., Fearon, D.T., "Activation of B lymphocytes : integrating signals from CD19, CD22 and FcγRIIb1", 1996, Cur. Opin. Immunol., 8, 378-382.
4. Loken, M.R., Shah, V.O., Dattilio, K.L., Civin, C.I., "Flow cytometric analysis of human bone marrow. II. Normal B lymphocyte development", 1987, Blood, 5, 70, 1316-1324.
5. Pesando, J. M., Bouchard, L. S., McMaster, B. E., "CD19 is functionally and physically associated with surface immunoglobulin", 1989, J. Exp. Med., 170, 2159-2164.
6. Bradbuy, L.E., Kansas, G.S., Levy, S., Evans, R.L., Tedder, T.F., "The CD19/CD21 signal transducing complex of human B lymphocytes includes the target of antiproliferative antibody-1 and Leu-13 molecules", 1992, J. Immunol., 9, 149, 2841-2850.
7. Tedder, F., Isaacs, C.M., Penta, A., "Cloning and structure of CD19, a member of the immunoglobulin superfamily. Use of transfected cells to examine the workshop antibodies", 1989,

(*): 20 µL is the quantity of product sufficient to stain 5 x 10^5 cells in a standard immunofluorescence assay

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Leucocyte Typing IV, White Cell Differentiation Antigens. W. Knapp, et al., Eds., Oxford University Press, 36-38.

8. Horejsi, V., Angelisova, P., "Comparatives biochemical studies on the Workshop CD5 and CD3 panel antibodies", 1987, Leucocyte Typing III, White Cell Differentiation Antigens, A.J. McMichael, 197.
9. Disanto, J.P., Small, T.N., Dupont, B., Flomenberg, N., Knowles, R.W., "Analysis of human CD8 and CD5 antigens expressed on mouse L-lines", 1987, Leucocyte Typing III, White Cell Differentiation Antigens, A.J. McMichael, 210-214.
10. Reiter, C., "Cluster report : CD5", 1993, Leucocyte Typing IV,White Cell Differentiation Antigens. W. Knapp, et al., Eds., Oxford University Press, 331-332.
11. Höffkes, H.G., Schmidtke, G., Uppenkamp, M., Schmücker, U., "Multiparametric immunophenotyping of B cells in peripheral blood of healthy adults by flow cytometry", 1996, Clin. Diag. Lab. Immunol., 1, 3, 30-36.

PRODUCT AVAILABILITY

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PE is licensed under patent 4,520,110.

For additional information in the USA, call 800-526-7694.
Outside the USA, contact your local Beckman Coulter representative.

www.beckmancoulter.com

TRADEMARKS

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