TECHNICAL DATA SHEET

CyFlow™ CD5 PerCP
Anti-Hu; Clone L17F12

REF **BK331753**

For Research Use Only.

Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD5
Alternative Names	Leu-1
Clone	L17F12
Clonality	monoclonal
Format	PerCP
Host / Isotype	Mouse / IgG2a
Species Reactivity	Human
Negative Species Reactivity	—
Quantity	100 tests
Immunogen	Human acute lymphoblastic leukemia (ALL) T cells

Specificity

The mouse monoclonal antibody L17F12 recognizes CD5 antigen, a 67kDa single-chain transmembrane glycoprotein expressed on mature T lymphocytes, most of thymocytes and B lymphocytes subset (B-1a lymphocytes).

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Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 10 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension. The content of a vial (1 ml) is sufficient for 100 tests.

Other usages may be determined from the scientific literature.

Storage Buffer

The reagent is provided in stabilizing phosphate buffered saline (PBS) solution, pH ≈7.4, containing 0.1% (w/v) sodium azide.

Storage and Stability

Storage	Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze.
Stability	Do not use after expiration date stamped on vial label.

Background Information

CD5 (T1) is a human cell surface T-lymphocyte single-chain transmembrane glycoprotein. CD5 is expressed on all mature T-lymphocytes, most of thymocytes, subset of B-lymphocytes and on many T-cell leukemias and lymphomas. It is a type I membrane glycoprotein whose extracellular region contains three scavenger receptor cysteine-rich (SRCR) domains. The CD5 is a signal transducing molecule whose cytoplasmic tail is devoid of any intrinsic catalytic activity. CD5 modulates signaling through the antigen-specific receptor complex (TCR and BCR). CD5 crosslinking induces extracellular Ca++ mobilization, tyrosine phosphorylation of intracellular proteins and DAG production. Preliminary evidence shows protein associations with ZAP-70, p56lck, p59fyn, PC-PLC, etc. CD5 may serve as a dual receptor, giving either stimulatory or inhibitory signals depending both on the cell type and development stage. In thymocytes and B1a cells seems to provide inhibitory signals, in peripheral mature T lymhocytes it acts as a costimulatory signal receptor. CD5 is the phenotypic marker of a B cell subpopulation involved in the production of autoreactive antibodies.Disease relevance: CD5 is a phenotypic marker for some B cell lymphoproliferative disorders (B-CLL, Hairy cell leukemia, etc.). The CD5+ popuation is expanded in some autoimmune disorders (Rheumatoid Arthritis, etc.). Herpes virus infections induce loss of CD5 expression in the expanded CD8+ human T cells.

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References

- Engleman EG, Warnke R, Fox RI, Dilley J, Benike CJ, Levy R: Studies of a human T lymphocyte antigen recognized by a monoclonal antibody. Proc Natl Acad Sci USA. 1981 Mar; 78(3):1791-5. < PMID: 7015346 >
- Shuster JJ, Falletta JM, Pullen DJ, Crist WM, Humphrey GB, Dowell BL, Wharam MD, Borowitz M: Prognostic factors in childhood T-cell acute lymphoblastic leukemia: a Pediatric Oncology Group study. Blood. 1990 Jan 1; 75(1):166-73. < PMID: 1688495 >
- McAlister MS, Davis B, Pfuhl M, Driscoll PC: NMR analysis of the N-terminal SRCR domain of human CD5: engineering of a glycoprotein for superior characteristics in NMR experiments. Protein Eng. 1998 Oct; 11(10):847-53. < PMID: 9862202 >
- Gong JZ, Lagoo AS, Peters D, Horvatinovich J, Benz P, Buckley PJ: Value of CD23 determination by flow cytometry in differentiating mantle cell lymphoma from chronic lymphocytic leukemia/small lymphocytic lymphoma. Am J Clin Pathol. 2001 Dec; 116(6):893-7. < PMID: 11764079 >
- Dunphy CH, Tang W: The value of CD64 expression in distinguishing acute myeloid leukemia with monocytic differentiation from other subtypes of acute myeloid leukemia: a flow cytometric analysis of 64 cases. Arch Pathol Lab Med. 2007 May; 131(5):748-54. < PMID: 17488160 >

The Safety Data Sheet for this product is available at www.sysmex-partec.com/services.

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