



1F-691-T025

## Monoclonal Antibody to CD5 Fluorescein (FITC) conjugated (25 tests)

<b>Clone:</b>	L17F12
<b>Isotype:</b>	Mouse IgG2a
<b>Specificity:</b>	The mouse monoclonal antibody L17F12 reacts with CD5, a 67kDa single-chain transmembrane glycoprotein expressed on mature T lymphocytes, most of thymocytes and B lymphocytes subset (B-1a lymphocytes).
<b>Regulatory Status:</b>	RUO
<b>Immunogen:</b>	Human acute lymphoblastic leukemia (ALL) T cells
<b>Species Reactivity:</b>	Human
<b>Preparation:</b>	The purified antibody is conjugated with Fluorescein isothiocyanate (FITC) under optimum conditions. The reagent is free of unconjugated FITC and adjusted for direct use. No reconstitution is necessary.
<b>Storage Buffer:</b>	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
<b>Storage / Stability:</b>	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis of human blood cells using 4 µl reagent / 100 µl of whole blood or 10 <sup>6</sup> cells in a suspension. The content of a vial (0.1 ml) is sufficient for 25 tests.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	<p>CD5 antigen (T1; 67 kDa) 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.</p> <p>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<sup>++</sup> 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 lymphocytes it acts as a costimulatory signal receptor. CD5 is the phenotypic marker of a B cell subpopulation involved in the production of autoreactive antibodies.</p> <p>Disease relevance: CD5 is a phenotypic marker for some B cell lymphoproliferative disorders (B-CLL, Hairy cell leukemia, etc.). The CD5<sup>+</sup> population is expanded in some autoimmune disorders (Rheumatoid Arthritis, etc.). Herpes virus infections induce loss of CD5 expression in the expanded CD8<sup>+</sup> human T cells.</p>

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**Antibodies**

- References:**
- \*Engleman EG, Warnke R, Fox RI, Dille J, Benike CJ, Levy R: Studies of a human T lymphocyte antigen recognized by a monoclonal antibody. Proc Natl Acad Sci U S A. 1981 Mar;78(3):1791-5.
  - \*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.
  - \*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.
  - \*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.
  - \*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.

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