

1A-482-T025

## Monoclonal Antibody to CD5 Allophycocyanin (APC) conjugated (25 tests)

<b>Clone:</b>	CRIS1
<b>Isotype:</b>	Mouse IgG2a
<b>Specificity:</b>	The antibody CRIS1 reacts with the cell surface glycoprotein CD5, a 67kDa single-chain transmembrane glycoprotein expressed on mature T lymphocytes, most of thymocytes and B lymphocytes subset (B-1a lymphocytes). HLDA I; WS Code T 29 HLDA III; WS Code T 530
<b>Regulatory Status:</b>	RUO
<b>Immunogen:</b>	stimulated human leukocytes
<b>Species Reactivity:</b>	Human, Other species Not tested
<b>Preparation:</b>	The purified antibody is conjugated with cross-linked Allophycocyanin (APC) under optimum conditions. The conjugate is purified by size-exclusion chromatography 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 10 µl reagent / 100 µl of whole blood or 10 <sup>6</sup> cells in a suspension. The content of a vial (0.25 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:**
- \*Freedman AS, Freeman G, Whitman J, Segil J, Daley J, Levine H, Nadler LM: Expression and regulation of CD5 on in vitro activated human B cells. *Eur J Immunol.* 1989 May;19(5):849-55.
  - Raman C: CD5, an important regulator of lymphocyte selection and immune tolerance. *Immunol Res.* 2002;26(1-3):255-63.
  - \*Leukocyte Typing III., McMichael A. J. et al. (Eds.), Oxford University Press (1987).
  - \*Arrizabalaga P, Mirapeix E, Darnell A, Torras A, Revert L: Cellular immunity analysis using monoclonal antibodies in human glomerulonephritis. *Nephron.* 1989;53(1):41-9.
  - \*Alberola-Ila J, Places L, Cantrell DA, Vives J, Lozano F: Intracellular events involved in CD5-induced human T cell activation and proliferation. *J Immunol.* 1992 Mar 1;148(5):1287-93.
  - \*Guarne A, Bravo J, Calvo J, Lozano F, Vives J, Fita I: Conformation of the hypervariable region L3 without the key proline residue. *Protein Sci.* 1996 Jan;5(1):167-9.

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