

1P-482-T025

Monoclonal Antibody to CD5 Phycoerythrin (PE) conjugated (25 tests)

Clone:	CRIS1
Isotype:	Mouse IgG2a
Specificity:	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
Immunogen:	stimulated human leukocytes
Species Reactivity:	Human, Other species Not tested
Preparation:	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
Storage Buffer:	The reagent is provided in phosphate buffered saline (PBS) containing 15 mM sodium azide and 0.2% (w/v) high-grade protease free Bovine Serum Albumin (BSA) as a stabilizing agent.
Storage / Stability:	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. Short-term exposure to room temperature should not affect the quality of the reagent. However, if reagent is stored under any conditions other than those specified, the conditions must be verified by the user.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.5 ml) is sufficient for 25 tests.
Expiration:	See vial label
Lot Number:	See vial label

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**Antibodies****Background:**

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.

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 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.

Disease relevance: CD5 is a phenotypic marker for some B cell lymphoproliferative disorders (B-CLL, Hairy cell leukemia, etc.). The CD5⁺ population is expanded in some autoimmune disorders (Rheumatoid Arthritis, etc.). Herpes virus infections induce loss of CD5 expression in the expanded CD8⁺ human T cells.

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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