

PB-482-T100

Monoclonal Antibody to CD5 Pacific Blue™ conjugated (100 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
Regulatory Status:	RUO
Immunogen:	stimulated human leukocytes
Species Reactivity:	Human, Other species Not tested
Preparation:	The purified antibody is conjugated with Pacific Blue™ 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 stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
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.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 4 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.4 ml) is sufficient for 100 tests.
Expiration:	See vial label
Lot Number:	See vial label
Background:	<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⁺⁺ 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⁺ 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.</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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