



PB-684-T025

Monoclonal Antibody to CD45 Pacific Blue™ conjugated (25 tests)

Clone:	HI30
Isotype:	Mouse IgG1
Specificity:	The mouse monoclonal antibody HI30 recognizes all isoforms of human CD45 antigen (Leukocyte Common Antigen), a 180-220 kDa single chain type I transmembrane protein expressed at high level on all cells of hematopoietic origin, except erythrocytes and platelets. HLDA IV; WS Code N816
Regulatory Status:	RUO
Species Reactivity:	Human, Non-Human Primates
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 (0.1 ml) is sufficient for 25 tests.
Expiration:	See vial label
Lot Number:	See vial label
Background:	CD45 (LCA, leukocyte common antigen) is a receptor-type protein tyrosine phosphatase ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists as multiple isoforms as a result of alternative splicing; these isoforms differ in their extracellular domains, whereas they share identical transmembrane and cytoplasmic domains. These isoforms differ in their ability to translocate into the glycosphingolipid-enriched membrane domains and their expression depends on cell type and physiological state of the cell. Besides the role in immunoreceptor signaling, CD45 is important in promoting cell survival by modulating integrin-mediated signal transduction pathway and is also involved in DNA fragmentation during apoptosis.

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**Antibodies****References:**

- *Yamada T, Zhu D, Saxon A, Zhang K: CD45 controls interleukin-4-mediated IgE class switch recombination in human B cells through its function as a Janus kinase phosphatase. *J Biol Chem.* 2002 Aug 9;277(32):28830-5.
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- *Leone AM, Rutella S, Bonanno G, Abbate A, Rebuzzi AG, Giovannini S, Lombardi M, Galiuto L, Liuzzo G, Andreotti F, Lanza GA, Contemi AM, Leone G, Crea F: Mobilization of bone marrow-derived stem cells after myocardial infarction and left ventricular function. *Eur Heart J.* 2005 Jun;26(12):1196-204.
- *Song L, Ara T, Wu HW, Woo CW, Reynolds CP, Seeger RC, DeClerck YA, Thiele CJ, Sposto R, Metelitsa LS: Oncogene MYCN regulates localization of NKT cells to the site of disease in neuroblastoma. *J Clin Invest.* 2007 Sep;117(9):2702-12.
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- *Tembhare PR, Subramanian PG, Sehgal K, Yajamanam B, Kumar A, Gadge V, Inamdar N, Gujral S: Immunophenotypic profile of plasma cell leukemia: a retrospective study in a reference cancer center in India and review of literature. *Indian J Pathol Microbiol.* 2011 Apr-Jun;54(2):294-8.
- And many other.

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