



1P-160-T100

Monoclonal Antibody to CD45 Phycoerythrin (PE) conjugated (100 tests)

Clone:	2D1
Isotype:	Mouse IgG1
Specificity:	The mouse monoclonal antibody 2D1 reacts with all alternative forms 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 from erythrocytes and platelets.
Regulatory Status:	RUO
Immunogen:	Human peripheral blood mononuclear cells
Species Reactivity:	Human
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 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 10 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (1 ml) is sufficient for 100 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:**
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 - *Wellhausen SR, Slone SP, Miller JJ: Clone-specific anti-CD45 blocking factor in patient plasma. *Cytometry B Clin Cytom.* 2007 Sep;72(5):423-6.
 - *Janossy G, Jani IV, Bradley NJ, Bikoue A, Pitfield T, Glencross DK: Affordable CD4(+)-T-cell counting by flow cytometry: CD45 gating for volumetric analysis. *Clin Diagn Lab Immunol.* 2002 Sep;9(5):1085-94.
 - *Pfau JC, Walker E, Card GL: Monoclonal antibodies to CD45 modify LPS-induced arachidonic acid metabolism in macrophages. *Biochim Biophys Acta.* 2000 Feb 28;1495(3):212-22.
 - *Ito A, Ishida T, Yano H, Inagaki A, Suzuki S, Sato F, Takino H, Mori F, Ri M, Kusumoto S, Komatsu H, Iida S, Inagaki H, Ueda R: Defucosylated anti-CCR4 monoclonal antibody exercises potent ADCC-mediated antitumor effect in the novel tumor-bearing humanized NOD/Shi-scid, IL-2Rgamma(null) mouse model. *Cancer Immunol Immunother.* 2009 Aug;58(8):1195-206.

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