



T7-222-T100

Monoclonal Antibody to CD45 PE-Cy™7 conjugated (100 tests)

Clone:	MEM-28
Isotype:	Mouse IgG1
Specificity:	The antibody MEM-28 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 erythrocytes and platelets. HLDA III; WS Code NL 833a
Regulatory Status:	RUO
Immunogen:	Human thymocytes and T lymphocytes.
Species Reactivity:	Human
Negative Species:	Equine (Horse)
Preparation:	The purified antibody is conjugated with tandem dye PE-Cy™7 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:	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.

For laboratory research only, not for drug, diagnostic or other use.

**Antibodies****References:**

- *Li FJ, Tsuyama N, Ishikawa H, Obata M, Abroun S, Liu S, Otsuyama K, Zheng X, Ma Z, Maki Y, Kawano MM: A rapid translocation of CD45RO but not CD45RA to lipid rafts in IL-6-induced proliferation in myeloma. *Blood*. 2005 Apr 15;105(8):3295-302.
- *Cosenza-Nashat MA, Kim MO, Zhao ML, Suh HS, Lee SC: CD45 isoform expression in microglia and inflammatory cells in HIV-1 encephalitis. *Brain Pathol*. 2006 Oct;16(4):256-65.
- *Dawes R, Petrova S, Liu Z, Wraith D, Beverley PC, Tchilian EZ. Combinations of CD45 isoforms are crucial for immune function and disease. *J Immunol*. 2006 Mar 15;176(6):3417-25.
- *Bijian K, Zhang L, Shen SH: Collagen-mediated survival signaling is modulated by CD45 in Jurkat T cells. *Mol Immunol*. 2007 Jul;44(15):3682-90.
- *Desharnais P, Dupéré-Minier G, Hamelin C, Devine P, Bernier J: Involvement of CD45 in DNA fragmentation in apoptosis induced by mitochondrial perturbing agents. *Apoptosis*. 2007 Dec 19.
- *Leukocyte Typing III., McMichael A. J. et al (Eds.), Oxford University Press (1987).
- *Horejsi V, Angelisova P, Bazil V, Kristofova H, Stoyanov S, Stefanova I, Hausner P, Vosecky M, Hilgert I: Monoclonal antibodies against human leucocyte antigens. II. Antibodies against CD45 (T200), CD3 (T3), CD43, CD10 (CALLA), transferrin receptor (T9), a novel broadly expressed 18-kDa antigen (MEM-43) and a novel antigen of restricted expression (MEM-74). *Folia Biol (Praha)*. 1988;34(1):23-34.
- *Ilangumaran S, Briol A, Hoessli DC: CD44 selectively associates with active Src family protein tyrosine kinases Lck and Fyn in glycosphingolipid-rich plasma membrane domains of human peripheral blood lymphocytes. *Blood*. 1998 May 15;91(10):3901-8.
- *Drbal K, Moertelmaier M, Holzhauser C, Muhammad A, Fuertbauer E, Howorka S, Hinterberger M, Stockinger H, Schütz GJ: Single-molecule microscopy reveals heterogeneous dynamics of lipid raft components upon TCR engagement. *Int Immunol*. 2007 May;19(5):675-84.
- *Koethe S, Zander L, Köster S, Annan A, Ebenfelt A, Spencer J, Bemark M: Pivotal advance: CD45RB glycosylation is specifically regulated during human peripheral B cell differentiation. *J Leukoc Biol*. 2011 Jul;90(1):5-19.
- *Cermák L, Símová S, Pintzas A, Horejsí V, Andera L: Molecular mechanisms involved in CD43-mediated apoptosis of TF-1 cells. Roles of transcription Daxx expression, and adhesion molecules. *J Biol Chem*. 2002 Mar 8;277(10):7955-61.
- *McCormack E, Mujić M, Osdal T, Bruserud Ø, Gjertsen BT: Multiplexed mAbs: a new strategy in preclinical time-domain imaging of acute myeloid leukemia. *Blood*. 2013 Feb 14;121(7):e34-42. doi: 10.1182/blood-2012-05-429555.
- *Majer F, Vlaskova H, Krol L, Kalina T, Kubanek M, Stolnaya L, Dvorakova L, Elleder M, Sikora J: Danon disease: a focus on processing of the novel LAMP2 mutation and comments on the beneficial use of peripheral white blood cells in the diagnosis of LAMP2 deficiency. *Gene*. 2012 May 1;498(2):183-95.
- *Heneberg P, Riegerová K, Kučera P: Pimecrolimus Is a Potent Inhibitor of Allergic Reactions to Hymenopteran Venom Extracts and Birch Pollen Allergen In Vitro. *PLoS One*. 2015 Nov 12;10(11):e0142953.

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