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Monoclonal Antibody to CD45 / LCA - FITC

Alternate names: L-CA, Leukocyte common antigen, PTPRC, Receptor-type tyrosine-protein phosphatase C, T200

Catalog No.: SM3025F

Quantity: 100 Tests

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.

Uniprot ID: P08575

NCBI: NP_002829.2

GeneID: 5788

Host / Isotype: Mouse / IgG1

Clone: MEM-28

Immunogen: Human thymocytes and T lymphocytes.

Format: **State:** Liquid purified Ig fraction.
Buffer System: Phosphate buffered saline (PBS) containing 15 mM Sodium Azide as preservative and 0.2% (w/v) high-grade BSA (Protease free) as a stabilizing agent.
Label: FITC – Fluorescein isothiocyanate The reagent is free of unconjugated and adjusted for direct use

Applications: Flow Cytometry analysis of human blood cells using 20 µl reagent/100 µl whole blood or 10e6 cells in a suspension.
The content of a vial (2 ml) is sufficient for 100 tests.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: The antibody reacts with all alternative forms of CD45 antigen (Leucocyte 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.
Species: Human.
Other species not tested.

Storage:

Store the antibody undiluted at 2-8°C.
DO NOT FREEZE!
This product is photosensitive and should be protected from light.
Shelf life: one year from despatch.

General References:

1. 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.
2. 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.
3. 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.
4. 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.
5. 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
6. Leukocyte Typing III., McMichael A. J. et al (Eds.), Oxford University Press (1987).
7. 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.
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.
9. 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.
10. 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.
11. Cermak L, Simova S, Pintzas A, Horejsi 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.