

Monoclonal Antibody to CD45 / LCA - APC

Alternate names:	L-CA, Leukocyte common antigen, PTPRC, Receptor-type tyrosine-protein phosphatase C, T200
Catalog No.:	SM3025APC
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 Ig fraction Purification: Size-exclusion chromatography Buffer System: Provided in phosphate buffered saline (PBS) containing 15 mM sodium azide and 0.2% (w/v) high-grade protease free Bovine Serum Albumin (BSA) as a stabilizing agent Label: APC – Cross-linked Allophycocyanin
Applications:	Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 ml of whole blood or 10e6 cells in a suspension. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
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. Species: Human. Other species not tested.

For research and in vitro use only. Not for diagnostic or therapeutic work.

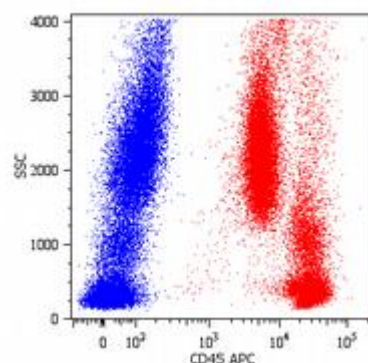
Material Safety Datasheets are available at www.acris-antibodies.com or on request.

Antibody Hotline - Technical Questions - Antibody Location Service
Free Call: 0800-2274746 (Germany only) - www.acris-antibodies.com

Storage: Store the antibody 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.
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 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.

Pictures:



Surface staining of human peripheral blood cells with anti-human CD45 (MEM-28) APC.

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