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Monoclonal Antibody to CD45 / LCA - Purified

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

Catalog No.: SM3025P

Quantity: 0.1 mg

Concentration: 1.0 mg/ml

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 IgG fraction (› 95% pure by SDS-PAGE)
Purification: Affinity Chromatography on Protein G
Buffer System: Phosphate Buffered Saline (PBS), pH~7.4 with 15 mM Sodium Azide as preservative

Applications:
Flow Cytometry: 1 µg/ml.
Immunoprecipitation.
Western Blot: 2 µg/ml.
Positive Control: JURKAT Human leukemia T-cell lysate, Kg-1a Human leukemia cell lysate.
Sample Preparation: buffer with laurylmaltoside, 2 x non-reducing SDS.
Non-reducing conditions. SDS-PAGE (6% separating gel).
Immunohistochemistry on Paraffin Sections: No pre-treatment of tissue sections is essential.
Immunocytochemistry: 10 µg/ml (paraformaldehyde fixation can be used).

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: The antibody clone *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 Reactivity: **Tested:** Human.

Storage: Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Shelf life: One year from despatch.

General References:

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3. Dawes R, Petrova S, Liu Z, Wraith D, Beverley PC, Tchilian EZ. J Immunol. 2006 Mar 15;176(6):3417-25.
4. Bijian K, Zhang L, Shen SH. 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. 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. Int Immunol. 2007 May;19(5):675-84.
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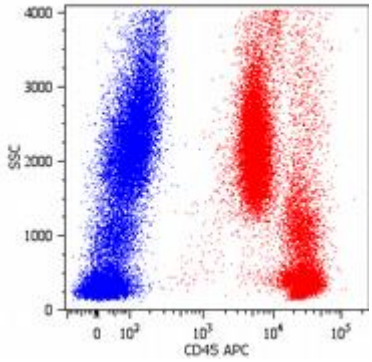
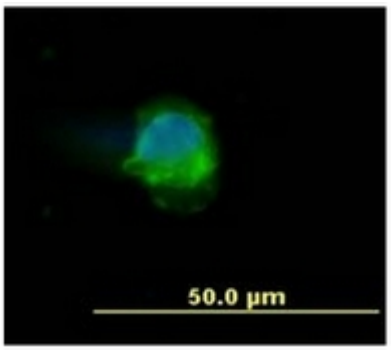
10. Koethe S, Zander L, Köster S, Annan A, Ebenfelt A, Spencer J, Bemark M: Pivotal advance. J Leukoc Biol. 2011 Jul;90(1):5-19.
11. Cermak L, Simova S, Pintzas A, Horejsi V, Andera L. Roles of transcription Daxx expression, and adhesion molecules. J Biol Chem. 2002 Mar 8;277(10):7955-61.

Pictures:



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



Immunocytochemistry staining of Human peripheral blood mononuclear cell using anti-Human CD45 antibody (MEM-28, green). DNA visualized by DAPI (blue)