

11-553-C100

## Monoclonal Antibody to CD45 (mouse) Purified Antibody (0.1 mg)

<b>Clone:</b>	EM-05
<b>Isotype:</b>	Rat IgG
<b>Specificity:</b>	The antibody EM-05 reacts with mouse CD45 antigen (Leukocyte Common Antigen), a single chain type I transmembrane protein expressed at high level on cells of hematopoietic origin, except erythrocytes and platelets.
<b>Regulatory Status:</b>	RUO
<b>Immunogen:</b>	Murine peripheral blood leukocytes
<b>Species Reactivity:</b>	Mouse
<b>Application:</b>	Flow Cytometry Recommended dilution: 2 µg/ml Positive control: murine peripheral blood leukocytes Immunoprecipitation Western Blotting Immunocytochemistry
<b>Purity:</b>	> 95% (by SDS-PAGE)
<b>Purification:</b>	Purified by protein-A affinity chromatography
<b>Concentration:</b>	1 mg/ml
<b>Storage Buffer:</b>	Phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4
<b>Storage / Stability:</b>	Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	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:**

- \*Byth KF, Conroy LA, Howlett S, Smith AJ, May J, Alexander DR, Holmes N: CD45-null transgenic mice reveal a positive regulatory role for CD45 in early thymocyte development, in the selection of CD4+CD8+ thymocytes, and B cell maturation. *J Exp Med.* 1996 Apr 1;183(4):1707-18.
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- \*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.
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- \*Shen KY, Song YC, Chen IH, Chong P, Liu SJ: Depletion of tumor-associated macrophages enhances the anti-tumor immunity induced by a Toll-like receptor agonist-conjugated peptide. *Hum Vaccin Immunother.* 2014;10(11):3241-50.

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