

TECHNICAL DATA SHEET

CyFlow™ CD45 Purified Anti-Ms; Clone EM-05

REF CG835727

For Research Use Only.
Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD45
Alternative Names	LCA, T200, B220
Clone	EM-05
Clonality	monoclonal
Format	Purified
Host / Isotype	Rat / IgG
Species Reactivity	Mouse
Negative Species Reactivity	—
Quantity [Concentration]	0.1 mg [1 mg/ml]
Immunogen	Murine peripheral blood leukocytes

Specificity

The rat monoclonal antibody EM-05 recognizes mouse CD45 antigen, a single chain type I transmembrane protein expressed at high level on cells of hematopoietic origin, except erythrocytes and platelets.

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Application

Based on published sources, this antibody is suitable for the following applications:

- Flow cytometry
- Immunoprecipitation
- Western blot
- Immunocytochemistry

Storage Buffer

The reagent is provided in phosphate buffered saline (PBS) solution, pH $\approx$ 7.4, containing 0.1% (w/v) sodium azide.

Storage and Stability

Storage	Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze.
Stability	Do not use after expiration date stamped on vial label.

Background Information

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.

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. < PMID: 8666928 >

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- Townsend KP, Vendrame M, Ehrhart J, Faza B, Zeng J, Town T, Tan J: CD45 isoform RB as a molecular target to oppose lipopolysaccharide-induced microglial activation in mice. *Neurosci Lett*. 2004 May 13; 362(1):26-30. < PMID: 15147773 >
- 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. < PMID: 16517710 >
- 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*. 2008 Feb; 13(2):197-212. < PMID: 18157742 >

The Safety Data Sheet for this product is available at www.sysmex-partec.com/services.

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