

TECHNICAL DATA SHEET

CyFlow™ CD45 Alexa Fluor™ 647 Anti-Hu; Clone MEM-28

REF CK267007

For Research Use Only.

Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD45
Alternative Names	LCA, T200, B220
Clone	MEM-28
Clonality	monoclonal
Format	Alexa Fluor™ 647
Host / Isotype	Mouse / IgG1
Species Reactivity	Human
Negative Species Reactivity	Horse
Quantity	100 tests
Immunogen	Human thymocytes and T lymphocytes

Specificity

The mouse monoclonal antibody MEM-28 recognizes all alternative forms of human CD45 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.

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 4 µl reagent / 100 µl of whole blood or 10⁶ cells in a suspension. The content of a vial (0.4 ml) is sufficient for 100 tests.

Other usages may be determined from the scientific literature.

Storage Buffer

The reagent is provided in stabilizing phosphate buffered saline (PBS) solution, pH ≈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

- McMichael AJ, Beverley PCL, Cobbold S, et al. (Eds): Leucocyte Typing III, White Cell Differentiation Antigens. Oxford University Press, Oxford. 1987; 1-1050. < NLM ID: 8913266 >
- Horejsí V, Angelisová P, Bazil V, Kristofová H, Stoyanov S, Stefanová I, Hausner P, Vosecký 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

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

- (MEM-43) and a novel antigen of restricted expression (MEM-74). *Folia Biol (Praha)*. 1988; 34(1):23-34. < PMID: 2968928 >
- Koene HR, Kleijer M, Algra J, Roos D, von dem Borne AE, de Haas M: Fc gammaRIIIa-158V/F polymorphism influences the binding of IgG by natural killer cell Fc gammaRIIIa, independently of the Fc gammaRIIIa-48L/R/H phenotype. *Blood*. 1997 Aug 1; 90(3):1109-14. < PMID: 9242542 >
 - Bhunia AK, Arai T, Bulkley G, Chatterjee S: Lactosylceramide mediates tumor necrosis factor-alpha-induced intercellular adhesion molecule-1 (ICAM-1 expression and the adhesion of neutrophil in human umbilical vein endothelial cells. *J Biol Chem*. 1998 Dec 18; 273(51):34349-57. < PMID: 9852101 >
 - Cermák L, Símová S, Pintzas A, Horejsí 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. < PMID: 11773067 >
 - Cortez-Gonzalez X, Sidney J, Adotevi O, Sette A, Millard F, Lemonnier F, Langlade-Demoyen P, Zanetti M: Immunogenic HLA-B7-restricted peptides of hTRT. *Int Immunol*. 2006 Dec; 18(12):1707-18. < PMID: 17077179 >
 - 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 >
 - Ide K, Wang H, Tahara H, Liu J, Wang X, Asahara T, Sykes M, Yang YG, Ohdan H: Role for CD47-SIRPalpha signaling in xenograft rejection by macrophages. *Proc Natl Acad Sci USA*. 2007 Mar 20; 104(12):5062-6. < PMID: 17360380 >
 - Drbal K, Moertelmaier M, Holzhauser C, Muhammad A, Fuerthbauer 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. < PMID: 17446208 >
 - Li C, Wong P, Pan T, Xiao F, Yin S, Chang B, Kang SC, Ironside J, Sy MS: Normal cellular prion protein is a ligand of selectins: binding requires Le(X) but is inhibited by sLe(X). *Biochem J*. 2007 Sep 1; 406(2):333-41. < PMID: 17497959 >
 - 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 >

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

- McCormack E, Mujić M, Osdal T, Bruserud Ø , Gjertsen BT: Multiplexed mAbs: a new strategy in preclinical time-domain imaging of acute myeloid leukemia. Blood. 2013 Feb 14; 121(7):e34-42. < PMID: 23243270 >
- McCormack E, Mujić M, Osdal T, Bruserud Ø , Gjertsen BT: Multiplexed mAbs: a new strategy in preclinical time-domain imaging of acute myeloid leukemia. Blood. 2013 Feb 14; 121(7):e34-42. < PMID: 23243270 >

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

This product is provided under an intellectual property license from Life Technologies Corporation. The transfer of this product is conditioned on the buyer using the purchased product solely in research conducted by the buyer, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@lifetech.com.

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com