

TECHNICAL DATA SHEET

CyFlow™ CD11a Low Endotoxin Anti-Hu; Clone MEM-25

REF BJ316500

For Research Use Only.

Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD11a
Alternative Names	LFA-1
Clone	MEM-25
Clonality	monoclonal
Format	Low Endotoxin
Host / Isotype	Mouse / IgG1
Species Reactivity	Human
Negative Species Reactivity	—
Quantity [Concentration]	0.1 mg [1 mg/ml]
Immunogen	Leukocytes of a patient suffering from LGL-type Leukemia

Specificity

The mouse monoclonal antibody MEM-25 recognizes CD11a antigen, a 170-180 kDa type I transmembrane glycoprotein expressed on B and T lymphocytes, monocytes, macrophages, neutrophils, basophils and eosinophils.

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

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

- Flow cytometry
- Immunoprecipitation
- Functional assays

Storage Buffer

The reagent is provided in azide-free phosphate buffered saline (PBS) solution, pH $\approx$ 7.4; 0.2 μ m filter sterilized. Endotoxin level is less than 0.01 EU/ μ g of the protein, as determined by the LAL test.

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

CD11a (LFA-1 α) together with CD18 constitute leukocyte function-associated antigen 1 (LFA-1), the α L β 2 integrin. CD11a is implicated in activation of LFA-1 complex. LFA-1 is expressed on the plasma membrane of leukocytes in a low-affinity conformation. Cell stimulation by chemokines or other signals leads to induction the high-affinity conformation, which supports tight binding of LFA-1 to its ligands, the intercellular adhesion molecules ICAM-1, -2, -3. LFA-1 is thus involved in interaction of various immune cells and in their tissue-specific settlement, but participates also in control of cell differentiation and proliferation and of T-cell effector functions. Blocking of LFA-1 function by specific antibodies or small molecules has become an important therapeutic approach in treatment of multiple inflammatory diseases. For example, humanized anti-LFA-1 antibody Efalizumab (Raptiva) is being used to interfere with T cell migration to sites of inflammation; binding of cholesterol-lowering drug simvastatin to CD11a allosteric site leads to immunomodulation and increase in lymphocytic cholinergic activity.

References

- Attarbaschi T, Willheim M, Ramharter M, Hofmann A, Wahl K, Winkler H, Graninger W, Winkler S: T cell cytokine profile during primary Epstein-Barr virus infection (infectious mononucleosis). Eur Cytokine Netw. 2003 Jan-Mar; 14(1):34-9. < PMID: 12799212 >

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- Bazil V, Stefanova I, Hilgert I, Kristofova H, Vanek S, Horejsi V: Monoclonal antibodies against human leucocyte antigens (IV): Antibodies against subunits of the LFA-1 (CD11a/CD18) leucocyte-adhesion glycoprotein. *Folia Biol (Praha)*. 1990; 36(1):41-50. < PMID: 1971601 >
- Fujii T, Takada-Takatori Y, Kawashima K: Roles played by lymphocyte function-associated antigen-1 in the regulation of lymphocytic cholinergic activity. *Life Sci*. 2007 May 30; 80(24-25):2320-4. < PMID: 17289088 >
- Garnotel R, Rittié L, Poitevin S, Monboisse JC, Nguyen P, Potron G, Maquart FX, Randoux A, Gillery P: Human blood monocytes interact with type I collagen through alpha x beta 2 integrin (CD11c-CD18, gp150-95). *J Immunol*. 2000 Jun 1; 164(11):5928-34. < PMID: 10820275 >
- Giblin PA, Lemieux RM: LFA-1 as a key regulator of immune function: approaches toward the development of LFA-1-based therapeutics. *Curr Pharm Des*. 2006; 12(22):2771-95. < PMID: 16918410 >
- Hajishengallis G, Martin M, Sojar HT, Sharma A, Schifferle RE, DeNardin E, Russell MW, Genco RJ: Dependence of bacterial protein adhesins on toll-like receptors for proinflammatory cytokine induction. *Clin Diagn Lab Immunol*. 2002 Mar; 9(2):403-11. < PMID: 11874886 >
- Kellersch B, Kolanus W: Membrane-proximal signaling events in beta-2 integrin activation. *Results Probl Cell Differ*. 2006; 43:245-57. < PMID: 17068975 >
- Mathison RD, Befus AD, Davison JS, Woodman RC: Modulation of neutrophil function by the tripeptide feG. *BMC Immunol*. 2003 Mar 4; 4:3. < PMID: 12659660 >
- Ottonello L, Epstein AL, Dapino P, Barbera P, Morone P, Dallegri F: Monoclonal Lym-1 antibody-dependent cytotoxicity by neutrophils exposed to granulocyte-macrophage colony-stimulating factor: intervention of FcgammaRII (CD32), CD11b-CD18 integrins, and CD66b glycoproteins. *Blood*. 1999 May 15; 93(10):3505-11. < PMID: 10233903 >
- Ottonello L, Epstein AL, Mancini M, Dapino P, Dallegri F: Monoclonal LYM-1 antibody-dependent cytotoxicity by human neutrophils exposed to GM-CSF: auto-regulation of target cell attack by cathepsin G. *J Leukoc Biol*. 2004 Jan; 75(1):99-105. < PMID: 14525961 >
- Sarantos MR, Raychaudhuri S, Lum AF, Staunton DE, Simon SI: Leukocyte function-associated antigen 1-mediated adhesion stability is dynamically regulated through affinity and valency during bond formation with intercellular adhesion molecule-1. *J Biol Chem*. 2005 Aug 5; 280(31):28290-8. < PMID: 15955822 >

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- Simon SI, Cherapanov V, Nadra I, Waddell TK, Seo SM, Wang Q, Doerschuk CM, Downey GP: Signaling functions of L-selectin in neutrophils: alterations in the cytoskeleton and colocalization with CD18. J Immunol. 1999 Sep 1; 163(5):2891-901. < PMID: 10453036 >
- Wang JH, Kwas C, Wu L: Intercellular adhesion molecule 1 (ICAM-1), but not ICAM-2 and -3, is important for dendritic cell-mediated human immunodeficiency virus type 1 transmission. J Virol. 2009 May; 83(9):4195-204. < PMID: 19211748 >
- Knapp W, Dorken B, Gilks W, Rieber EP, Schmidt RE, Stein H, von dem Borne AEGK (Eds): Leucocyte Typing IV. Oxford University Press, Oxford. 1989; 1-1820. < NLM ID: 8914679 >

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

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