



Antibodies

1B-210-C025

Monoclonal Antibody to CD11a Biotin conjugated (0.025 mg)

Clone:	MEM-25
Isotype:	Mouse IgG1
Specificity:	The antibody MEM-25 reacts with CD11a (alpha subunit of human LFA-1), a 170-180 kDa type I transmembrane glycoprotein expressed on B and T lymphocytes, monocytes, macrophages, neutrophils, basophils and eosinophils. HLDA IV; WS Code NL 209
Immunogen:	Leukocytes from a patient suffering from a LGL-type leukaemia.
Species Reactivity:	Human
Preparation:	The purified antibody is conjugated with Biotin-LC-NHS under optimum conditions. The reagent is free of unconjugated biotin.
Concentration:	1 mg/ml
Storage Buffer:	Phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4
Storage / Stability:	Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.
Usage:	Biotinylated antibody is designed for indirect immunofluorescence analysis by Flow Cytometry. Suggested working dilution is 1:120. Indicated dilution is recommended starting point for use of this product. Working concentrations should be determined by the investigator.
Expiration:	See vial label
Lot Number:	See vial label
Background:	CD11a (LFA-1 alpha) together with CD18 constitute leukocyte function-associated antigen 1 (LFA-1), the alphaLbeta2 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.

For laboratory research only, not for drug, diagnostic or other use.

**Antibodies****References:**

- *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.
- *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.
- *Kellersch B, Kolanus W: Membrane-proximal signaling events in beta-2 integrin activation. *Results Probl Cell Differ.* 2006;43:245-57.
- *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.
- *Leukocyte Typing IV., Knapp W. et al. (Eds.), Oxford University Press (1989).
- *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.
- *Otonello 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.
- *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.
- *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.
- *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.
- *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.
- *Mathison RD, Befus AD, Davison JS, Woodman RC: Modulation of neutrophil function by the tripeptide feG. *BMC Immunol.* 2003 Mar 4;4:3. Epub 2003 Mar 4.
- *Otonello 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 Fc gamma RII (CD32), CD11b-CD18 integrins, and CD66b glycoproteins. *Blood.* 1999 May 15;93(10):3505-11.
- *Aubert M, Yoon M, Sloan DD, Spear PG, Jerome KR: The virological synapse facilitates herpes simplex virus entry into T cells. *J Virol.* 2009 Jun;83(12):6171-83.
- *And many other.

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