



1T-210-T025

Monoclonal Antibody to CD11a PE-Dyomics 590 (PE-DY590) conjugated (25 tests)

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 tandem dye PE-Dyomics 590 (PE-DY590) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
Storage Buffer:	The reagent is provided in phosphate buffered saline (PBS) containing 15 mM sodium azide and 0.2% (w/v) high-grade protease free Bovine Serum Albumin (BSA) as a stabilizing agent.
Storage / Stability:	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label. Short-term exposure to room temperature should not affect the quality of the reagent. However, if reagent is stored under any conditions other than those specified, the conditions must be verified by the user.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.5 ml) is sufficient for 25 tests.
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.

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