



11-380-C025

Monoclonal Antibody to CD11a Purified Antibody (0.025 mg)

Clone:	MEM-83
Isotype:	Mouse IgG1
Specificity:	The antibody MEM-83 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 N 211
Regulatory Status:	RUO
Immunogen:	Human peripheral blood lymphocytes
Species Reactivity:	Human
Application:	Functional Application The antibody MEM-83 directly induces the binding of T cells to purified ICAM-1. Using an in vitro-translated CD11a cDNA deletion series, the MEM-83 activation epitope was mapped to the "I" domain of the LFA-1 alpha subunit. The studies have therefore identified a novel LFA-1 activation epitope mapping to the I domain of LFA-1, which could play a role in the regulation of LFA-1 binding to ICAM-1. Flow Cytometry Recommended dilution: 1 µg/ml Immunoprecipitation
Purity:	> 95% (by SDS-PAGE)
Purification:	Purified by protein-A affinity chromatography
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.
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.

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Antibodies

- References:**
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 - *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).
 - *Landis RC, Bennett RI, Hogg N: A novel LFA-1 activation epitope maps to the I domain. *J Cell Biol.* 1993 Mar;120(6):1519-27.
 - *Landis RC, McDowall A, Holness CL, Littler AJ, Simmons DL, Hogg N: Involvement of the "I" domain of LFA-1 in selective binding to ligands ICAM-1 and ICAM-3. *J Cell Biol.* 1994 Jul;126(2):529-37.

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