Monoclonal Antibody to CD11a
Low Endotoxin (0.1 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)
Concentration: 1 mg/ml
Storage Buffer: Azide free phosphate buffered saline (PBS), approx. pH 7.4; 0.2 µm filter sterilized. Endotoxin level is less than 0.01 EU/µg of the protein, as determined by the LAL test.
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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References:

* Leukocyte Typing IV., Knapp W. et al. (Eds.), Oxford University Press (1989).

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