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Mouse anti Integrin alpha 5 (CD49e)

Catalogue number: **MUB0910P**

Clone	NKI-SAM-1
Isotype	IgG2b
Product Type	Primary Antibodies
Units	0.1 mg
Host	Mouse (Balb/c)
Species reactivity	Human Macaque
Application	Flow cytometry Immunocytochemistry Immunohistochemistry (frozen) Immunoprecipitation

Background

Integrins are transmembrane glycoproteins that belong to the family of adhesion molecules. They promote interactions between cells and their environment, being both other cells or the extracellular matrix. Integrins are a family of heterodimeric membrane glycoproteins consisting of non-covalently associated subunits, i.e. an α -subunit of 95 kDa that is conserved through the superfamily and a more variable β subunit of 150-170 kDa. More than 18 α and 8 β subunits with numerous splice variant isoforms have been identified in mammals. The integrin $\alpha 5$ chain (160 kDa) (CD49e), undergoes post-translational cleavage in the extracellular domain to yield disulfide-linked light (25 kDa) and heavy (135 kDa) chains, which non-covalently associate with the integrin $\beta 1$ subunit (CD29) (130 kDa), thus forming the heterodimer $\alpha 5$ - $\beta 1$ very late antigen (VLA-5) complex. VLA-5 is a fibronectin receptor (FNr) that is expressed on thymocytes, T-cells, monocytes and platelets. It is also found on very early B-cells and activated B-cells. VLA-5 mediates binding of T- and B-cells to fibronectin, an extracellular matrix glycoprotein involved in cell adhesion and migration in wound healing, embryonic development and malignant transformation. The VLA-5 or FNr binds only fibronectin recognizing the Arg-Gly-Asp (RGD) sequence in the central region of the molecule.

Source

NKI-SAM-1 is a monoclonal antibody obtained by fusion of mouse myeloma cells with spleen cells from BALB/C mice immunized with U937 histiocytic lymphoma cells.

Distributors

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Product

Each vial contains 100 µl 1 mg/ml purified monoclonal antibody in PBS containing 0.09% sodium azide.

Applications

NKI-SAM-1 is suitable for flow cytometry (recommended range is 1:200 – 1:500, using 0.2-0.5 µg for 10⁶ cells) and can be used to determine the VLA-5 expression in peripheral blood monocytes and monocyte derived dendritic cells (see refs 2 and 3), B cells and B-cell precursors (ref. 4), and in the less pathogenic yeast *Candida* species (ref. 5). NKI-SAM-1 can also be applied in immunohistochemistry on frozen tissues, immunocytochemistry and immunoprecipitation. Optimal antibody dilution should be determined by titration.

Specificity

NKI-SAM-1 recognizes the 135-kDa integrin- alpha 5 monocyte-specific antigen. As a result NKI-SAM-1 strongly reacts with monocytes, and weakly with granulocytes, platelets and T-lymphocytes. Its exact epitope is not known.

Storage

Store at 4°C, or in small aliquots at -20°C.

References

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3. Grassi, F., Dezutter-Dambuyant, C., McIlroy, D., Jacquet, C., Yoneda, K., Imamura, S., Boumsell, L., Schmitt, D., Autran, B., Debre, P., Hosmalin, A. (1998). Monocyte-derived dendritic cells have a phenotype comparable to that of dermal cells and display ultrastructural granules distinct from Birbeck granules. *J Leukoc Biol* 64, 484-93.
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5. Santoni, G., Birbarelli, P., Hong, L., Gamero, A., Djeu, J., Piccoli, M. (1995). An α5β1-like integrin receptor mediates the binding of less pathogenic *Candida* species to fibronectin. *J Med Microbiol* 43, 360-7.
6. Klingemann, H.G., Dedhar, S. (1989). Distribution of integrins on human peripheral blood mononuclear cells. *Blood* 74, 1348-54.

Caution

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals. This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water. This datasheet is as accurate as reasonably

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