

**MOUSE ANTI-HUMAN CD49e  
MONOCLONAL ANTIBODY**

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<b>CATALOG NUMBER:</b>	CBL497	<b>QUANTITY:</b>	100 µg
<b>LOT NUMBER:</b>		<b>CONCENTRATION:</b>	2.0 mg/mL
<b>CLONE NAME:</b>	NKI-SAM-1	<b>HOST/ISOTYPE:</b>	Ms IgG <sub>2b</sub>
<b>ALTERNATE NAMES:</b>	Integrin alpha5; VLA-5 alpha		

**BACKGROUND:** The integrin family of cell adhesion receptors consists of at least 18 membrane-associated heterodimers, composed of an alpha and beta subunit that associate in a non-covalent manner. The structure and functional diversity of the integrin family are based upon the pairing abilities of the individual alpha and beta subunits. Key to these molecular interactions between the integrin receptors and their respective ligands is the recognition of the Arg-Gly-Asp (RGD) sequence, known to be present in the extracellular matrix components fibronectin, vitronectin, collagen, fibrinogen, and vonWillebrand factor. Adhesion results in integrin aggregation into structures called focal adhesion plaques, which form the link between the extracellular space and the intracellular cytoskeleton. Signaling from focal adhesions is initiated by the kinases FAK, Pyk2 and ILK. Phosphorylation and cleavage of integrins results in modifications of cell adhesion, permitting physiological processes such as migration, vascular proliferation, and wound repair.

**SPECIFICITY:** Clone NKI-SAM-1 is directed against the integrin alpha5 antigen (CD49e) alpha chain), which complexes with the integrin beta1 antigen (CD29), resulting in the VLA-5 (alpha5beta1) complex which is expressed on human platelets. The monoclonal antibody reacts with platelets and monocytes and also weakly with T cells and granulocytes. It also reacts with various cell types of non-haemopoietic origin.

**APPLICATIONS:** Flow cytometry: live or acetone fixed cells only  
Immunofluorescence: unfixed fresh frozen, acetone or methanol fixed cell/tissue slices; 5-10µg/mL  
*Optimal working dilutions must be determined by the end user.*

**SPECIES REACTIVITY:** Reacts with Human. Reactivity with other species has not been determined.

**IMMUNOGEN:** U937 cells

**PRESENTATION:** Purified immunoglobulin by ammonium sulphate precipitation followed by ion exchange chromatography. Liquid in 20 mM Tris, 150 mM NaCl, and 0.001% merthiolate.

**STORAGE/HANDLING:** Maintain at 2-8 °C for up to 12 months from date of receipt.

**REFERENCES:**

Midwood, KS *et al.* (2004). Easy and Efficient Bonding of Biomolecules to an Oxide Surface of Silicon. *Langmuir* **20**:5501-5505.

Agnihotri, R. *et al.* (2001). Osteopontin, a Novel Sustrate for Matrix Metalloproteinase-3 (Stromelysin-1) and Matrix Metalloproteinase-7 (Matrilysin). *J. Biol. Chem.* **276**(30):28261-28267.

A. te Velde *et al.* (1988). *J. Immunol.* **140**:1548.

**Important Note:** *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200  $\mu$ L or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

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