

**MOUSE ANTI-HUMAN INTEGRIN alphaVbeta3 [CD51/61]  
ALEXA FLUOR<sup>®</sup> 488 CONJUGATED MONOCLONAL ANTIBODY**

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<b>CATALOG NUMBER:</b>	MAB1976X	<b>QUANTITY:</b>	100 µg
<b>LOT NUMBER:</b>		<b>CONCENTRATION:</b>	1 mg/mL
<b>CLONE NAME:</b>	LM609	<b>HOST/ISOTYPE:</b>	Ms IgG <sub>1</sub>
<b>ALTERNATE NAMES:</b>	CD51/61, Vitronectin Receptor		

**BACKGROUND:** The integrin family of cell adhesion receptors consists of at least 16 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 von Willebrand factor (Cheresh, 1991). The involvement of integrins in vascular proliferation, adhesion, and wound repair has been well documented. The adhesion receptor, integrin alphaVbeta3, appears to be selectively expressed on growing blood vessels and has been identified as a marker of angiogenic vascular tissue (Brooks, 1994). Due to its involvement in angiogenesis, integrin alphaVbeta3 is one of the most intensely studied of the integrin receptors.

**SPECIFICITY:** Monoclonal antibody LM609 is reactive with the vitronectin receptor alphaVbeta3 complex, an RGD-directed adhesion receptor. LM609 has been demonstrated to block adhesion of a human melanoma cell line (M21) to vitronectin, fibrinogen and von Willebrand factor, as well as to a synthetic RGD containing peptide (Cheresh, 1987). In chick chorioallantoic membranes, LM609 was shown to block angiogenesis induced by bFGF and TNFalpha but had no effect on pre-existing vessels (Brooks, 1994). While LM609 does block cell attachment to RGD containing ligands, it does not interact directly with the RGD binding site. Instead, LM609 appears to be an allosteric inhibitor of integrin alphaVbeta3, which binds to a conformational epitope resulting from the post-translational association of the alphaV and beta3 subunits.

**IMMUNOGEN:** Purified adhesion receptor from the human melanoma cell line M21 (Cheresh, 1987).

**APPLICATIONS:** Flow Cytometry  
Immunofluorescence: 5-10 µg/mL as a starting dilution  
*Optimal working dilutions must be determined by the end user.*

**SPECIES REACTIVITY:** Human, bovine, chicken, monkey, porcine, canine, rabbit, and avian. Not reactive with rat tissue.

**CONTROL:** POSITIVE CONTROL: Human myeloma cell lines M21 and MoalphaV (Chen, 1995).  
NEGATIVE CONTROL: Mo cells (this cell line was derived from M21 but does not express integrin alphaV; Chen, 1995).

**PRESENTATION:** Purified immunoglobulin by Protein A, conjugated to Alexa Fluor® 488. Liquid in 0.02M PBS with 0.25M NaCl, pH 7.6, and 0.1% NaN<sub>3</sub> as a preservative.

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

**RELATED REFERENCES:** Ria R et al. (2002). AlphaVBeta3 integrin engagement enhances cell invasiveness in human multiple myeloma. *Haematologica* **87(8)** : 836-845.

Tsopanoglou, NE et al. (2002). On the mechanism of thrombin-induced angiogenesis: involvement of alphaVbeta3 integrin . *Am J Physiol Cell Physiol* **283** : C1501-C1510.

Ratnikov, BI et al. (2002). An Alternative Processing of Integrin alphaV Subunit in Tumor Cells by Membrane Type-1 Matrix Metalloproteinase. *J Biol. Chem* **277(8)** : 7377-7385.

Gonzalez, AM et al. (2002). Complex interactions between the laminin alpha4 subunit and integrins regulate endothelial cell behavior in vitro and angiogenesis in vivo. *PNAS, USA* **99(25)** : 16075-16080.

Gao, B et al. (2002). Role of AlphaV beta3-integrin in TNF--induced endothelial cell migration . *Amer J Physiol Cell Physiol* **283(4)** : C1196-C1205.

Ahmed, N. et. al. (2002). Association between alphavbeta6 integrin expression, elevated p42/44 kDa MAPK, and plasminogen-dependent matrix degradation in ovarian cancer. *J. Cellular Biochemistry* **84(4)** : 675-686.

Ahmed N. et. al. (2002). Overexpression of alpha(v)beta6 integrin in serous epithelial ovarian cancer regulates extracellular matrix degradation via the plasminogen activation cascade. *Carcinogenesis* **23(2)** : 237-244.

Furumtsu, T et. al. (2002). Endostatin inhibits adhesion of endothelial cells to collagen I via alpha2beta1 integrin, a possible cause of prevention of Chondrosarcoma growth. *J. Biochem.* **131** : 619-626.

For a complete listing of references, please refer to [www.chemicon.com](http://www.chemicon.com)

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*For research use only; not for use as a diagnostic.*

**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 µL 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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