

## Datasheet: MCA699GA

**BATCH NUMBER 173876**

<b>Description:</b>	RAT ANTI HUMAN CD49f
<b>Specificity:</b>	CD49f
<b>Other names:</b>	INTEGRIN ALPHA 6 CHAIN, VLA-6
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	NKI-GoH3
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	0.1 mg

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/50 - 1/200
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	
Immunofluorescence	▪			

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

### Target Species

Human

### Species Cross Reactivity

Reacts with: Mouse, Dog, Pig, Cynomolgus monkey, Sheep

**N.B.** Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

### Product Form

Purified IgG - liquid

### Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture

supernatant

---

**Buffer Solution** Phosphate buffered saline

---

**Preservative Stabilisers** <0.1% Sodium Azide (NaN<sub>3</sub>)

---

**Carrier Free** Yes

---

**Approx. Protein Concentrations** IgG concentration 1.0 mg/ml

---

**Immunogen** BALB/c mouse mammary tumor cells

---

**External Database Links**

**UniProt:**

[P23229](#)

[Related reagents](#)

**Entrez Gene:**

[3655](#)

ITGA6

[Related reagents](#)

---

**RRID** AB\_324232

---

**Fusion Partners** Spleen cells from immunized Sprague-Dawley rats were fused with cells of the SP2/0 mouse myeloma cell line

---

**Specificity** **Rat anti Human CD49f antibody, clone NKI-GoH3** recognizes CD49f, also known as the VLA-6 alpha chain. CD49f is a 1107 amino acid ~120 kDa cell surface glycoprotein that forms distinct complexes with CD29 (VLA beta-chain), resulting in the VLA-6 (alpha-6 beta-1) complex, expressed on human platelets, or with the beta-4 integrin resulting in the alpha-6 beta-4 complex expressed on various human epithelial cells.

Rat anti Human CD49f antibody, clone NKI-GoH3 reacts with platelets, megakaryocytes, T lymphocytes and common acute lymphoblastic leukemia cells (alpha-6 beta-1). In immunohistology the monoclonal antibody reacts with epithelial cells of a variety of tissues, peripheral nerves, microvascular endothelial cells, placenta cyto- and syncytiotrophoblasts. VLA-6 is an important mediator of cell binding to laminin.

Rat anti Human CD49f antibody, clone NKI-GoH3 blocks the binding of cells to the E8 fragment of laminin ([Sonnenberg \*et al.\* 1998](#)).

---

**Flow Cytometry** Use 10ul of the suggested working dilution to label 10<sup>6</sup> platelets in 100ul.

---

**Histology Positive Control Tissue** Human tonsil

---

**References** 1. Sonnenberg, A. *et al.* (1986) Development of mouse mammary gland: identification of stages in differentiation of luminal and myoepithelial cells using monoclonal antibodies and polyvalent antiserum against keratin. [J Histochem Cytochem. 34 \(8\): 1037-46.](#)

2. Sonnenberg, A. *et al.* (1987) A complex of platelet glycoproteins Ic and IIa identified by a rat monoclonal antibody. [J Biol Chem. 262 \(21\): 10376-83.](#)
3. Sonnenberg, A. *et al.* (1988) Identification and characterization of a novel antigen complex on mouse mammary tumor cells using a monoclonal antibody against platelet glycoprotein Ic. [J Biol Chem. 263 \(28\): 14030-8.](#)
4. Sonnenberg, A. *et al.* (1988) Laminin receptor on platelets is the integrin VLA-6. [Nature. 336 \(6198\): 487-9.](#)
5. Hemler, M.E. *et al.* (1988) Multiple very late antigen (VLA) heterodimers on platelets. Evidence for distinct VLA-2, VLA-5 (fibronectin receptor), and VLA-6 structures. [J Biol Chem. 263 \(16\): 7660-5.](#)
6. Workshop of the 4th International Conference on Human Leucocyte Differentiation Antigens Vienna (1989) Workshop number p 055. Oxford University Press.
7. Soligo, D. *et al.* (1989) Immunohistochemical reactivity on bone marrow and tissues of anti-VLA antibodies in the platelet panel, in Leucocyte Typing IV: White Cell Differentiation Antigens. Edited by Knapp, W. *et al.* Oxford University Press p1029-1032.
8. Sonnenberg, A. *et al.* (1990) The alpha 6 beta 1 (VLA-6) and alpha 6 beta 4 protein complexes: tissue distribution and biochemical properties. [J Cell Sci. 96 \( Pt 2\): 207-17.](#)
9. Sonnenberg, A. *et al.* (1990a) Integrin recognition of different cell-binding fragments of laminin (P1, E3, E8) and evidence that alpha 6 beta 1 but not alpha 6 beta 4 functions as a major receptor for fragment E8. [J Cell Biol. 110 \(6\): 2145-55.](#)
10. Alais, S. *et al.* (2001) HEMCAM/CD146 downregulates cell surface expression of beta1 integrins. [J Cell Sci. 114: 1847-59.](#)
11. Dangerfield, J. *et al.* (2002) PECAM-1 (CD31) homophilic interaction up-regulates alpha6beta1 on transmigrated neutrophils *in vivo* and plays a functional role in the ability of alpha6 integrins to mediate leukocyte migration through the perivascular basement membrane. [J Exp Med. 196: 1201-11.](#)
12. Le Bellego, F. *et al.* (2005) Cytoskeleton reorganization mediates alpha6beta1 integrin-associated actions of laminin on proliferation and survival, but not on steroidogenesis of ovine granulosa cells. [Reprod Biol Endocrinol. 3: 19.](#)
13. Anderson, C. *et al.* (2009) Sonic hedgehog-dependent synthesis of laminin alpha1 controls basement membrane assembly in the myotome. [Development. 136: 3495-504.](#)
14. Jensen, K.B. *et al.* (2010) Assaying proliferation and differentiation capacity of stem cells using disaggregated adult mouse epidermis. [Nat Protoc. 5 \(5\): 898-911.](#)
15. da Silva, R.G. *et al.* (2010) Endothelial alpha3beta1-integrin represses pathological angiogenesis and sustains endothelial-VEGF. [Am J Pathol. 177: 1534-48.](#)
16. Collins, C.A. *et al.* (2011) Reprogramming adult dermis to a neonatal state through epidermal activation of  $\beta$ -catenin [Development. 138: 5189-99.](#)
17. Schäfer, G. *et al.* (2013) The role of inflammation in HPV infection of the Oesophagus. [BMC Cancer. 13: 185.](#)
18. Moreira, M.L. *et al.* (2016) Vaccination against canine leishmaniosis increases the phagocytic activity, nitric oxide production and expression of cell activation/migration molecules in neutrophils and monocytes. [Vet Parasitol. 220: 33-45.](#)
19. Mastrogiannaki, M. *et al.* (2016)  $\beta$ -Catenin Stabilization in Skin Fibroblasts Causes Fibrotic Lesions by Preventing Adipocyte Differentiation of the Reticular Dermis. [J Invest Dermatol. 136 \(6\): 1130-42.](#)
20. Haining, E.J. *et al.* (2017) Tetraspanin Tspan9 regulates platelet collagen receptor GPVI lateral diffusion and activation. [Platelets. 28 \(7\): 629-42.](#)

21. Peuhu, E. *et al.* (2017) Integrin beta 1 inhibition alleviates the chronic hyperproliferative dermatitis phenotype of SHARPIN-deficient mice [PLOS ONE. 12 \(10\): e0186628.](#)
22. Rayagiri, S.S. *et al.* (2018) Basal lamina remodeling at the skeletal muscle stem cell niche mediates stem cell self-renewal. [Nat Commun. 9 \(1\): 1075.](#)
23. Loureiro, J. *et al.* (2019) Conjugation of the T1 sequence from CCN1 to fibrin hydrogels for therapeutic vascularization. [Mater Sci Eng C Mater Biol Appl. 104: 109847.](#)
24. Ikeda, A. *et al.* (2020) Follistatin expressed in mechanically-damaged salivary glands of male mice induces proliferation of CD49<sup>+</sup> cells. [Sci Rep. 10 \(1\): 19959.](#)
25. Lorenzo-Martín, L.F. *et al.* (2022) The Rho guanosine nucleotide exchange factors Vav2 and Vav3 modulate epidermal stem cell function. [Oncogene. May 09 \[Epub ahead of print\].](#)
26. Lorenzo-Martín, L.F. & Bustelo, X.R. (2023) The Rho GTPase exchange factor Vav2 promotes extensive age-dependent rewiring of the hair follicle stem cell transcriptome. [Front Cell Dev Biol. 11: 1252834.](#)
27. Conway, J.R.W. *et al.* (2023) Defined extracellular matrix compositions support stiffness-insensitive cell spreading and adhesion signaling. [Proc Natl Acad Sci U S A. 120 \(43\): e2304288120.](#)
28. Lim, L.K.P. *et al.* (2023) Automated electrical stimulation therapy accelerates re-epithelialization in a 3D in vitro human skin wound model. [Adv Wound Care \(New Rochelle\). Dec 07 \[Epub ahead of print\].](#)

<b>Further Reading</b>	1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. <a href="#">Vet Res. 39: 54.</a>
<b>Storage</b>	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.  Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.
<b>Guarantee</b>	12 months from date of despatch
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA699GA">https://www.bio-rad-antibodies.com/SDS/MCA699GA</a>
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight@800</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight@550</a> , <a href="#">DyLight@650</a> , <a href="#">DyLight@800</a>
Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>

Goat Anti Rat IgG (STAR131...)

[Alk. Phos.](#), [Biotin](#)

Rabbit Anti Rat IgG (STAR21...)

[HRP](#)

Rabbit Anti Rat IgG (STAR17...)

[FITC](#)

**Product inquiries:** [www.bio-rad-antibodies.com/technical-support](http://www.bio-rad-antibodies.com/technical-support)

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](http://bio-rad-antibodies.com/datasheets)

'M389724:210806'

**Printed on 08 Jun 2026**

---

© 2026 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)