Datasheet: MCA699GA

BATCH NUMBER 169128

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

	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_3)
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 10^6 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 reacitivy 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 β-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) β-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 CD49f^{+} 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].

Further Reading	1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39: 54.
Storage	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.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA699GA 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight®800
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (STAR72...)	HRP
Goat Anti Rat IgG (STAR69...)	FITC

Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR21...)	HRP
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight®550, DyLight®650, DyLight®800
Goat Anti Rat IgG (STAR131...)	Alk. Phos., Biotin

North & South America Tel: +1 800 265 7376
Fax: +1 919 878 3751
Email: antibody_sales_us@bio-rad.com

Worldwide Tel: +44 (0)1865 852 700
Fax: +44 (0)1865 852 739
Email: antibody_sales_uk@bio-rad.com

Europe Tel: +49 (0) 89 8090 95 21
Fax: +49 (0) 89 8090 95 50
Email: antibody_sales_de@bio-rad.com

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

'M389724:210806'

Printed on 29 Aug 2024