Datasheet: MCA699

BATCH NUMBER 172316

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:	0.2 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_321462
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/MCA699
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight®800
Rabbit Anti Rat IgG (STAR17...)	FITC
Rabbit Anti Rat IgG (STAR21...)	HRP
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight®550, DyLight®650, DyLight®800
Goat Anti Rat IgG (STAR69...)	FITC

Goat Anti Rat IgG (STAR73...)	RPE
Goat Anti Rat IgG (STAR72...)	HRP
Goat Anti Rat IgG (STAR131...)	Alk. Phos., Biotin

Product inquiries: 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

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