Datasheet: MCA1781A647 BATCH NUMBER 153040

Description:	MOUSE ANTI CANINE CD21:Alexa Fluor® 647
Specificity:	CD21
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	CA2.1D6
lsotype:	lgG1
Quantity:	100 TESTS/1ml

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 <u>www.bio-rad-antibodies.com/protocols</u> .				
		Yes	No	Not Determined	Suggested Dilution
	Flow Cytometry	•			Neat - 1/10
	Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.				
Target Species	Dog				
Species Cross Reactivity	Reacts with: Horse, Cat, Raccoon 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 conjugated to Alexa Fluor® 647 - liquid				
Max Ex/Em	Fluorophore Alexa Fluor®647	Excitation Ma 650	x (nm)	Emission Max (nm) 665	
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant				
Buffer Solution	Phosphate buffered saline				

Preservative Stabilisers	0.09% Sodium Azide (NaN ₃) 1% Bovine Serum Albumin
Approx. Protein Concentrations	IgG concentration 0.05mg/ml
RRID	AB_1658137
Specificity	Mouse anti Canine CD21 antibody, clone CA2.1D6 recognizes canine CD21, also known as Complement receptor type 2. CD21 is a cell surface antigen expressed by canine B lymphocytes.
	The antigen recognized may be the canine homologue of human CD21, but this has not been fully confirmed.
	Mouse anti Canine CD21 antibody , clone CA2.1D6 also recognizes the CD21 antigen in Felids. Expression in cats is analogous to that seen in dogs with strong expression on lymphocytes, in a manner mutually exclusive with expression of CD4 or CD8. Mouse anti Canine CD21 antibody, clone CA2.1D6 immunoprecipitates a ~145 kDa protein from feline lymphocytes, similar to the protein immunoprecipitated by the antibody from canine lymphocytes (<u>Dean <i>et al.</i> 1996</u>).
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells or 100ul whole blood.
References	 Cobbold, S. & Metcalfe, S. (1994) Monoclonal antibodies that define canine homologues of human CD antigens: summary of the First International Canine Leukocyte Antigen Workshop (CLAW). <u>Tissue Antigens. 43 (3): 137-54.</u> Brodersen, R. <i>et al.</i> (1998) Analysis of the immunological cross reactivities of 213 well characterized monoclonal antibodies with specificities against various leucocyte surface antigens of human and 11 animal species. <u>Vet Immunol Immunopathol. 64 (1): 1-13.</u> Dean, G.A. <i>et al.</i> (1996) Proviral burden and infection kinetics of feline immunodeficiency virus in lymphocyte subsets of blood and lymph node. <u>J Virol. 70 (8): 5165-9.</u> Faldyna, M. <i>et al.</i> (2004) Lymphocyte subsets in synovial fluid from clinically healthy joints of dogs. <u>Acta Vet. Brno 73: 73-8.</u> Bund, D. <i>et al.</i> (2010) Canine-DCs using different serum-free methods as an approach to provide an animal-model for immunotherapeutic strategies. <u>Cell Immunol. 263: 88-98.</u> Huang, Y.C. <i>et al.</i> (2008) CD5-low expression lymphocytes in canine peripheral blood show characteristics of natural killer cells. <u>J Leukoc Biol. 84: 1501-10.</u> Mortarino, M. <i>et al.</i> (2008) CD134 and CXCR4 expression corresponds to feline immunodeficiency virus infection of lymphocytes, macrophages and dendritic cells. <u>J Gen</u> <u>Virol. 89: 277-87.</u> Wang, Y.S. <i>et al.</i> (2007) Characterization of canine monocyte-derived dendritic cells with phenotypic and functional differentiation. <u>Can J Vet Res. 71: 165-74.</u> Lankford, S. <i>et al.</i> (2008) Cloning of feline FOXP3 and detection of expression in CD4+CD25+ regulatory T cells. <u>Vet Immunol Immunopathol. 122: 159-66.</u>

11. Araujo, M.S. *et al.* (2011) Immunological changes in canine peripheral blood leukocytes triggered by immunization with first or second generation vaccines against canine visceral leishmaniasis. <u>Vet Immunol Immunopathol. 141: 64-75.</u>

12. Estrela-Lima, A. *et al.* (2010) Immunophenotypic features of tumor infiltrating lymphocytes from mammary carcinomas in female dogs associated with prognostic factors and survival rates. <u>BMC Cancer. 10: 256.</u>

13. Horn, P.A. *et al.* (2004) Efficient lentiviral gene transfer to canine repopulating cells using an overnight transduction protocol. <u>Blood. 103: 3710-6.</u>

14. Hsiao, Y.W. *et al.* (2004) Tumor-infiltrating lymphocyte secretion of IL-6 antagonizes tumor-derived TGF-beta 1 and restores the lymphokine-activated killing activity. <u>J</u> <u>Immunol. 172: 1508-14.</u>

15. Jubala, C.M. *et al.* (2005) CD20 expression in normal canine B cells and in canine non-Hodgkin lymphoma. <u>Vet Pathol. 42: 468-76.</u>

16. Gaurnier-Hausser, A. *et al.* (2011) NEMO-Binding Domain Peptide Inhibits Constitutive NF-{kappa}B Activity and Reduces Tumor Burden in a Canine Model of Relapsed, Refractory Diffuse Large B-Cell Lymphoma. Clin Cancer Res. 17: 4661-71.

17. Maiolini, A. *et al.* (2012) Toll-like receptors 4 and 9 are responsible for the maintenance of the inflammatory reaction in canine steroid-responsive meningitis-arteritis,

a large animal model for neutrophilic meningitis. J Neuroinflammation. 9: 226.

18. Cave, N.J. *et al.* (2012) Systemic effects of periodontal disease in cats. <u>Vet Q. 32:</u> <u>131-44.</u>

19. Yuasa, K. *et al.* (2007) Injection of a recombinant AAV serotype 2 into canine skeletal muscles evokes strong immune responses against transgene products. <u>Gene Ther. 14:</u> 1249-60.

20. Aresu, L. *et al.* (2014) VEGF and MMP-9: biomarkers for canine lymphoma. <u>Vet Comp</u> <u>Oncol. 12: 29-36.</u>

21. Heinrich, F. *et al.* (2015) Immunophenotyping of immune cell populations in the raccoon (*Procyon lotor*). <u>Vet Immunol Immunopathol. 168 (3-4): 140-6.</u>

22. Gelain, M.E. *et al.* (2014) CD44 in canine leukemia: analysis of mRNA and protein expression in peripheral blood. <u>Vet Immunol Immunopathol. 159 (1-2): 91-6.</u>

23. Michael, H.T. *et al.* (2013) Isolation and characterization of canine natural killer cells. <u>Vet Immunol Immunopathol. 155 (3): 211-7.</u>

24. Mitchell, L. *et al.* (2012) Induction of remission results in spontaneous enhancement of anti-tumor cytotoxic T-lymphocyte activity in dogs with B cell lymphoma. <u>Vet Immunol Immunopathol. 145 (3-4): 597-603.</u>

25. Bonnefont-Rebeix, C. *et al.* (2016) Characterization of a novel canine T-cell line established from a spontaneously occurring aggressive T-cell lymphoma with large granular cell morphology. <u>Immunobiology. 221 (1): 12-22.</u>

26. Izci C *et al.* (2015) Clinical and light microscopic studies of the conjunctival tissues of dogs with bilateral keratoconjunctivitis sicca before and after treatment with topical 2% cyclosporine. <u>Biotech Histochem. 90 (3): 223-30.</u>

27. Ledbetter, E.C. *et al.* (2016) Clinical and immunological assessment of therapeutic immunization with a subunit vaccine for recurrent ocular canine herpesvirus-1 infection in dogs. <u>Vet Microbiol. 197: 102-10.</u>

28. Lin, S-C. *et al.* (2014) Immune Characterization of Peripheral Blood Mononuclear cells of the Dogs Restored from Innoculation of Canine Transmissible Venereal Tumor Cells. <u>Tai Vet J. 40 (04): 181-90.</u>

	29. Herry, V. <i>et al.</i> (2017) Local immunization impacts the response of dairy cows to <i>Escherichia coli</i> mastitis. <u>Sci Rep. 7 (1): 3441.</u>
	30. Gibbons, N. <i>et al.</i> (2017) Phenotypic heterogeneity of peripheral monocytes in healthy
	dogs. <u>Vet Immunol Immunopathol. 190: 26-30.</u>
	31. Martini, V. <i>et al.</i> (2018) Flow cytometry for feline lymphoma: a retrospective study
	regarding pre-analytical factors possibly affecting the quality of samples. <u>J Feline Med</u>
	Surg. 20 (6): 494-501.
	32. Declue, A.E. <i>et al.</i> (2018) Identification of immunologic and clinical characteristics that
	predict inflammatory response to C. Novyi-NT bacteriolytic immunotherapy. <u>BMC Vet Res.</u>
	<u>14 (1): 119.</u>
	33. DaSilva, A.V.A. <i>et al.</i> (2018) Morphophysiological changes in the splenic extracellular
	matrix of <i>Leishmania infantum</i> -naturally infected dogs is associated with alterations in
	lymphoid niches and the CD4+ T cell frequency in spleens. <u>PLoS Negl Trop Dis. 12 (4)</u> :
	e0006445.
	34. Schmidli, M.R. <i>et al.</i> (2018) Inflammatory pattern of the infrapatellar fat pad in dogs
	with canine cruciate ligament disease. <u>BMC Vet Res. 14 (1): 161.</u>
	35. Miranda, L.H.M de M. et al. (2018) Co-infection with feline retrovirus is related to
	changes in immunological parameters of cats with sporotrichosis. <u>PLoS One. 13 (11):</u> e0207644.
	36. Maeta, N. <i>et al.</i> (2019) Lymphokine-activated killer cell transplantation after
	anti-cancer treatment in two aged cats. <u>Open Vet J. 9 (2): 147-50.</u>
	37. Sato, M. <i>et al.</i> (2018) Prognostic significance of hypermethylation of death-associated
	protein kinase (DAPK) gene CpG island in dogs with high-grade B-cell lymphoma. Vet
	<u>Comp Oncol. 16 (3): 409-15.</u>
	38. Aricò, A. <i>et al.</i> (2013) The role of vascular endothelial growth factor and matrix
	metalloproteinases in canine lymphoma: <i>in vivo</i> and <i>in vitro</i> study. <u>BMC Vet Res. 9: 94.</u>
	39. Adular-Soares, R.D.O. et al. (2020) Phase Land II Clinical Trial Comparing the LBSap.
	39. Aguiar-Soares, R.D.O. <i>et al.</i> (2020) Phase I and II Clinical Trial Comparing the LBSap, Leishmune [®] and Leish-Tec [®] Vaccines against Canine Visceral Leishmaniasis Vaccines
	$Leishmune^{\mathbb{R}}$, and $Leish-Tec^{\mathbb{R}}$ Vaccines against Canine Visceral Leishmaniasis. <u>Vaccines</u>
Storage	Leishmune [®] , and Leish-Tec [®] Vaccines against Canine Visceral Leishmaniasis. <u>Vaccines</u> (<u>Basel</u>). 8 (4)Nov 17 [Epub ahead of print]. Store at +4°C or at -20°C if preferred.
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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA1781A647 10041	
Regulatory	For research purposes only	
Related Produ	cts	

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 (MCA928A647)

North & South	Tel: +1 800 265 7376	Worldwide	Tel: +44 (0)1865 852 700	Europe	Tel: +49 (0) 89 8090 95 21
America	Fax: +1 919 878 3751		Fax: +44 (0)1865 852 739		Fax: +49 (0) 89 8090 95 50
	Email: antibody_sales_us@bio-rad.com		Email: antibody_sales_uk@bio-rad.com		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 'M365719:200529'

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