Datasheet: MCA1037F BATCH NUMBER 158426

Description:	RAT ANTI DOG CD5:FITC
Specificity:	CD5
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	YKIX322.3
lsotype:	lgG2a
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 <u>www.bio-</u> <u>rad-antibodies.com/protocols</u> .					
		Yes	No	Not Determined	Suggested Dilution	
	Flow Cytometry				Neat - 1/10	
	Where this antibody han necessarily exclude its a guide only. It is recorrectly system using appropriate	as not been tes use in such pr mmended that ate negative/po	sted for us rocedures the user ositive co	se in a particular s. Suggested wor titrates the antibo ntrols.	technique this does not king dilutions are given as ody for use in their own	
Target Species	Dog					
Product Form	Purified IgG conjugate	d to Fluorescei	in Isothio	cyanate Isomer 1	(FITC) - liquid	
Max Ex/Em	Fluorophore	Excitation Max	k (nm) E	mission Max (nm)	
	FITC	490		525		
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant					
Buffer Solution	Phosphate buffered saline					
Preservative Stabilisers	0.09% Sodium Azide 1% Bovine Serum Albumin					
Approx. Protein Concentrations	IgG concentration 0.1 i	mg/ml				

Immunogen	Concanavilin A activated canine peripheral blood cells		
RRID	AB_322643		
Fusion Partners	Spleen cells from an immunised DA rat were fused with cells of the rat Y3/Ag1.2.3 myeloma cell line		
Specificity	Rat anti Dog CD5 antibody, clone YKIX322.3 recognizes canine CD5, a 67 kDa cell surface type 1 transmembrane glycoprotein also known as lymphocyte antigen T1, Ly-1 or Leu-1. CD5 is expressed on the surface of T-cells and thymocytes, CD5 is also expressed by NK cells at low levels (<u>Huang <i>et al.</i> 2008</u>). Rat anti dog CD5, cloneYKIX322.3 was clustered as canine CD5 in the First Canine Leucocyte Antigen Workshop (<u>Cobbold <i>et al.</i></u> 1994).		
	In a study of 73 cases of canine chronic lymphocytic leukemia (CLL) CD5 expression was absent on all cases of B-cell CLL as defined by CD21 expression and lack of CD3 or other T cell antigen expression (<u>Vernau and Moore 1999</u>). Rat anti dog CD5 serves as a useful marker for the discrimination of canine leukemias of differing origins (<u>Deravi <i>et al.</i> 2017</u>).		
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells or 100ul of 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> Hewicker-Trautwein, M. <i>et al.</i> (1999) Immunocytochemical demonstration of lymphocyte subsets and MHC class II antigen expression in synovial membranes from dogs with rheumatoid arthritis and degenerative joint disease. <u>Vet Immunol Immunopathol. 67 (4)</u>; <u>341-57.</u> Huang, Y.C. (2008) CD5-low expression lymphocytes in canine peripheral blood show characteristics of natural killer cells. <u>J Leukoc Biol. 84</u>: 1501-10. Araújo, M.S. <i>et al.</i> (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> Burnett, R.C. <i>et al.</i> (2003) Diagnosis of canine lymphoid neoplasia using clonal rearrangements of antigen receptor genes. <u>Vet Pathol. 40</u>: 32-41. Fosmire, S.P. <i>et al.</i> (2007) Inactivation of the p16 cyclin-dependent kinase inhibitor in high-grade canine non-Hodgkin's T-cell lymphoma. <u>Vet Pathol. 44</u>: 467-78. Guarga, J.L. <i>et al.</i> (2002) Evaluation of a specific immunochemotherapy for the treatment of canine visceral leishmaniasis. <u>Vet Immunol Immunopathol. 88</u>: 13-20. Vernau, W. Moore, P.F. <i>et al.</i> (1999) An immunophenotypic study of canine leukemias and preliminary assessment of clonality by polymerase chain reaction. <u>Vet Immunol Immunopathol. 69</u>: 145-64. Lamerato-kozicki, A.R. <i>et al.</i> (2006) Canine hemangiosarcoma originates from hematopoietic precursors with potential for endothelial differentiation. <u>Exp Hematol. 34 (7)</u>: <u>870-8.</u> Rütgen BC <i>et al.</i> (2012) Authentication of primordial characteristics of the CLBL-1 cell line prove the integrity of a canine B-cell lymphoma in a murine in vivo model. <u>PLoS One.</u> <u>7 </u>		

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

12. 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. <u>Vet Parasitol. 220: 33-45.</u>

13. 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>

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

15. Karayannopoulou, M. *et al.* (2017) Evaluation of blood T-lymphocyte subpopulations involved in host cellular immunity in dogs with mammary cancer. <u>Vet Immunol Immunopathol. 186: 45-50.</u>

16. 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>

17. Gibbons, N. *et al.* (2017) Phenotypic heterogeneity of peripheral monocytes in healthy dogs. <u>Vet Immunol Immunopathol. 190: 26-30.</u>

18. Deravi, N. *et al.* (2017) Specific immunotypes of canine T cell lymphoma are associated with different outcomes. <u>Vet Immunol Immunopathol. 191: 5-13.</u>

19. GomesMde, O. *et al.* (2011) Old beagle dogs have lower faecal concentrations of some fermentation products and lower peripheral lymphocyte counts than young adult beagles. <u>Br J Nutr. 106 Suppl 1: S187-90.</u>

20. MariaA, P.J. *et al.* (2017) The effect of age and carbohydrate and protein sources on digestibility, fecal microbiota, fermentation products, fecal IgA, and immunological blood parameters in dogs. <u>J Anim Sci. 95 (6): 2452-66.</u>

21. Stokol, T. *et al.* (2015) Alkaline phosphatase is a useful cytochemical marker for the diagnosis of acute myelomonocytic and monocytic leukemia in the dog. <u>Vet Clin Pathol.</u> <u>44 (1): 79-93.</u>

22. Martini, V. *et al.* (2019) Prognostic role of non-neoplastic lymphocytes in lymph node aspirates from dogs with diffuse large B-cell lymphoma treated with chemo-immunotherapy. <u>Res Vet Sci. 125: 130-5.</u>

23. Lin, C.S. *et al.* (2018) Activating natural killer (NK) cytotoxicity of canine CD5⁻CD21⁻ cells requires low surface CD5 density NK cells. <u>Iran J Vet Res. 19 (2): 87-95.</u>

24. Roatt, B.M. *et al.* (2017) A Vaccine Therapy for Canine Visceral Leishmaniasis Promoted Significant Improvement of Clinical and Immune Status with Reduction in Parasite Burden. <u>Front Immunol. 8: 217.</u>

25. Aricò, A. *et al.* (2013) The role of vascular endothelial growth factor and matrix metalloproteinases in canine lymphoma: *in vivo* and *in vitro* study. <u>BMC Vet Res. 9: 94.</u>
26. Aguiar-Soares, R.D.O. *et al.* (2020) Phase I and II Clinical Trial Comparing the LBSap, Leishmune[®], and Leish-Tec[®] Vaccines against Canine Visceral Leishmaniasis. <u>Vaccines</u> (Basel). 8 (4)Nov 17 [Epub ahead of print].

27. Graves, S.S. *et al.* (2019) Development and characterization of a canine-specific anti-CD94 (KLRD-1) monoclonal antibody. <u>Vet Immunol Immunopathol. 211: 10-8.</u>
28. Ito, D. *et al.* (2015) A double blinded, placebo-controlled pilot study to examine reduction of CD34 ⁺/CD117 ⁺/CD133 ⁺ lymphoma progenitor cells and duration of remission induced by neoadjuvant valspodar in dogs with large B-cell lymphoma. <u>F1000Res. 4: 42.</u>

	 29. Wolf-Ringwall, A. <i>et al.</i> (2020) Prospective evaluation of floc characteristics, histopathologic diagnosis and clinical outcome lymphoma treated with a 19-week CHOP protocol. <u>Vet Comp (</u> 30. Sayag, D. <i>et al.</i> (2020) Proof-of-concept study: Evaluation electrolytes as markers of response to L-asparaginase therapy lymphoma. <u>Vet Clin Pathol. 49 (3): 476-83.</u> 31. Lee, J. <i>et al.</i> (2021) Canine Natural Killer Cell-Derived Exo Activity in a Mouse Model of Canine Mammary Tumor. <u>Biomed</u> 32. Grudzien, M. <i>et al.</i> (2021) A newly established canine NK- cytotoxic properties. <u>Vet Comp Oncol. 19 (3): 567-77.</u> 33. Lee, S.H. <i>et al.</i> (2021) Safety and immunological effects of in dogs. <u>Cytokine. 148: 155599.</u> 	ow cytometric in dogs with naïve B-cell Oncol. 18 (3): 342-52. of plasma and urinary y in dogs with high-grade somes Exhibit Antitumor <u>A Res Int. 2021: 6690704.</u> type cell line and its
	 34. Karayannopoulou, M. <i>et al.</i> (2022) Effect of major versus mimmunity in canine mammary cancer <u>Vet Immunol Immunopat</u> 35. Riccardo, F. <i>et al.</i> (2022) Antigen mimicry as an effective stargeted immunity in dogs with oral melanoma: a veterinary triat (5): e004007. [Epub ahead of print]. 36. Jaensch, S. <i>et al.</i> (2022) Clinicopathologic and immunophe with presumptive large granular lymphocyte leukaemia <u>Austral</u> [Epub ahead of print]. 	ninor mastectomy on host hol. 24 Feb: 110403. trategy to induce CSPG4- al. <u>J Immunother Cancer. 10</u> enotypic features in dogs <u>ian Veterinary Journal.</u>
Storage	This product is shipped at ambient temperature. It is recomme -20°C on receipt. When thawed, aliquot the sample as needed short term use (up to 4 weeks) and store the remaining aliquot Avoid repeated freezing and thawing as this may denature the frost-free freezers is not recommended. This product is photos protected from light.	nded to aliquot and store at I. Keep aliquots at 2-8°C for ts at -20°C. antibody. Storage in sensitive and should be
Guarantee	12 months from date of despatch	
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA1037F 10041	
Regulatory	For research purposes only	

Related Products

Recommended Negative Controls

RAT IgG2a NEGATIVE CONTROL:FITC (MCA6005F) RAT IgG2a NEGATIVE CONTROL:FITC (MCA1212F)

North & South	Tel: +1 800 265 7376 Worldv	wide	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 'M384622:210513'

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint