

## Datasheet: MCA1039A647 BATCH NUMBER 149532

Description:	RAT ANTI DOG CD8:Alexa Fluor® 647
Specificity:	CD8
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	YCATE55.9
Isotype:	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 - 1/5		
	Where this antibody has not been tested for use in a particular technique this does not						
	necessarily exclude its a guide only. It is reco systems with appropria	mmended that	t the use	r titrates the antibody	g dilutions are given as for use in their own		
Target Species	Dog						
Product Form	Purified IgG conjugated to Alexa Fluor® 647 - liquid						
Max Ex/Em	Fluorophore	Excitation Ma	ıx (nm)	Emission Max (nm)			
	Alexa Fluor®647	650		665			
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 0.05	5 mg/ml					

External Database Links	UniProt: <u>P33706</u> <u>Related reagents</u>
	Entrez Gene:
	403157 CD8A Related reagents
RRID	AB_2075548
Fusion Partners	Spleen cells from immunised DA rat were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.
Specificity	<b>Rat anti Dog CD8 antibody, clone YCATE55.9</b> was clustered as Canine CD8 in the First Canine Leukocyte Antigen Workshop ( <u>Cobbold <i>et al.</i> 1994</u> ). YCATE55.9 reacts with a rat cell line transfected with cDNA for canine CD8 $\alpha$ ( <u>Gorman <i>et al.</i> 1994</u> ) and blocks MHC class I dependent T-cell responses <i>in vitro</i> and <i>in vivo</i> .
	Rat anti Dog CD8, clone YCATE55.9 has been shown to deplete circulating CD8+ T cells when administered to dogs <i>in vivo</i> . (Watson <i>et al.</i> 1993) Reduced levels of circulating CD8+ T cells has been associated with decreased survival times for dogs with osteosarcoma (Biller <i>et al.</i> 2010).
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 <sup>6</sup> cells in 100ul.
References	<ol> <li>Cobbold, S. &amp; 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></li> <li>Gorman, S.D. <i>et al.</i> (1994) Isolation and expression of cDNA encoding the canine CD4 and CD8 alpha antigens. <u>Tissue Antigens. 43 (3): 184-8.</u></li> <li>Watson, C.J. <i>et al.</i> (1993) CD4 and CD8 monoclonal antibody therapy: strategies to prolong renal allograft survival in the dog. <u>Br J Surg. 80 (11): 1389-92.</u></li> <li>Papadogiannakis, E.I. <i>et al.</i> (2009) Determination of intracellular cytokines IFN-gamma and IL-4 in canine T lymphocytes by flow cytometry following whole-blood culture. <u>Can J Vet Res. 73 (2): 137-43.</u></li> <li>Benyacoub, J. <i>et al.</i> (2003) Supplementation of food with <i>Enterococcus faecium</i> (SF68) stimulates immune functions in young dogs. <u>J Nutr. 133: 1158-62.</u></li> <li>Bird, R.C. <i>et al.</i> (2010) An autologous dendritic cell canine mammary tumor hybrid-cell fusion vaccine. <u>Cancer Immunol Immunother. 60: 87-97.</u></li> <li>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></li> <li>Estrela-Lima, A. <i>et al.</i> (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></li> <li>Huang, Y.C. <i>et al.</i> (2008) CD5-low expression lymphocytes in canine peripheral blood</li> </ol>
	show characteristics of natural killer cells. <u>J Leukoc Biol. 84: 1501-10.</u> 10. Kornegay, J.N. <i>et al.</i> (2010) Widespread muscle expression of an AAV9 human
	to. Remogay, one of an (2010) wheespread muscle expression of an AAVS human

mini-dystrophin vector after intravenous injection in neonatal dystrophin-deficient dogs. <u>Mol Ther. 18: 1501-8.</u>

11. Pichavant, C. *et al.* (2010) Expression of dog microdystrophin in mouse and dog muscles by gene therapy. <u>Mol Ther. 18: 1002-9.</u>

12. Pinheiro, D. *et al* (2011) Phenotypic and functional characterization of a CD4(+) CD25(high) FOXP3(high) regulatory T-cell population in the dog. <u>Immunology. 132:</u> <u>111-22.</u>

13. Reis, A.B. *et al.* (2006) Phenotypic features of circulating leucocytes as immunological markers for clinical status and bone marrow parasite density in dogs naturally infected by *Leishmania chagasi*. <u>Clin Exp Immunol. 146: 303-11.</u>

14. Figueiredo, M.M. *et al.* (2014) Expression of Regulatory T Cells in Jejunum, Colon, and Cervical and Mesenteric Lymph Nodes of Dogs Naturally Infected with *Leishmania infantum*. Infect Immun. 82: 3704-12.

 Costa-Pereira, C. *et al.* (2015) One-year timeline kinetics of cytokine-mediated cellular immunity in dogs vaccinated against visceral leishmaniasis. <u>BMC Vet Res. 11 (1): 92.</u>
 Schaut, R.G. *et al.* (2016) Regulatory IgDhi B Cells Suppress T Cell Function via IL-10 and PD-L1 during Progressive Visceral Leishmaniasis. <u>J Immunol. Apr 13. pii: 1502678.</u> [Epub ahead of print]

17. Tagawa, M. *et al.* (2016) Evaluation of Costimulatory Molecules in Peripheral Blood Lymphocytes of Canine Patients with Histiocytic Sarcoma. <u>PLoS One. 11 (2): e0150030.</u>
18. Riondato, F. *et al.* (2015) Analytical and diagnostic validation of a flow cytometric strategy to quantify blood and marrow infiltration in dogs with large b-cell lymphoma. <u>Cytometry B Clin Cytom. Dec 13. [Epub ahead of print]</u>

19. Cortese, L. *et al.* (2015) An immune-modulating diet increases the regulatory T cells and reduces T helper 1 inflammatory response in Leishmaniosis affected dogs treated with standard therapy. <u>BMC Vet Res. 11: 295.</u>

20. Miller, J. *et al.* (2015) Humoral and Cellular Immune Response in Canine Hypothyroidism. <u>J Comp Pathol. 153 (1): 28-37.</u>

 Riondato, F. *et al.* (2016) Identification of a suitable internal control for fluorescence analysis on canine peripheral blood samples. <u>Vet Immunol Immunopathol. 172: 38-42.</u>
 Martini, V. *et al.* (2015) Canine small clear cell/T-zone lymphoma: clinical presentation and outcome in a retrospective case series. <u>Vet Comp Oncol. Jun 3. [Epub ahead of print]</u>
 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>

24. Duz AL *et al.* (2014) The Tcl and Tcll *Trypanosoma cruzi* experimental infections induce distinct immune responses and cardiac fibrosis in dogs. <u>Mem Inst Oswaldo Cruz.</u> 109 (8): 1005-13.

25. Munhoz, T.D. *et al.* (2016) Regulatory T cells in dogs with multicentric lymphoma: peripheral blood quantification at diagnosis and after initial stage chemotherapy <u>Arg. Bras.</u> <u>Med. Vet. Zootec., v.68, n.1, p.1-9, 2016</u>

26. 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>

27. Viana, K.F. *et al.* (2015) Setting the proportion of CD4+ and CD8+ T-cells co-cultured with canine macrophages infected with *Leishmania chagasi*. <u>Vet Parasitol. 211 (3-4):</u> 124-32.

28. Bromberek, J.L. et al. (2016) Breed Distribution and Clinical Characteristics of B Cell

Chronic Lymphocytic Leukemia in Dogs. J Vet Intern Med. 30 (1): 215-22.

29. Mie K *et al.* (2016) Influence of transfusion of lymphokine-activated T killer cells on inflammatory responses in dogs after laparotomy. <u>J Vet Med Sci. Jan 2. [Epub ahead of print]</u>

30. Miglio, A. *et al.* (2014) Acute undifferentiated leukaemia in a dog. <u>Aust Vet J. 92 (12):</u> <u>499-503.</u>

31. Villaescusa, A. *et al.* (2015) Effects of doxycycline on haematology, blood chemistry and peripheral blood lymphocyte subsets of healthy dogs and dogs naturally infected with *Ehrlichia canis*. <u>Vet J. 204 (3): 263-8.</u>

32. Fiuza JA *et al.* (2015) Vaccination using live attenuated *Leishmania donovani* centrin deleted parasites induces protection in dogs against *Leishmania infantum*. <u>Vaccine. 33 (2):</u> <u>280-8.</u>

33. Perosso, J. *et al.* (2014) Alteration of sFAS and sFAS ligand expression during canine visceral leishmaniosis. <u>Vet Parasitol. 205 (3-4): 417-23.</u>

34. 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>

35. Poggi A *et al.* (2016) Prognostic significance of Ki67 evaluated by flow cytometry in dogs with high-grade B-cell lymphoma. <u>Vet Comp Oncol. Jan 21. [Epub ahead of print]</u>
36. McGill, J.L. *et al.* (2016) Vaccination with an Attenuated Mutant of Ehrlichia chaffeensis Induces Pathogen-Specific CD4+ T Cell Immunity and Protection from Tick-Transmitted Wild-Type Challenge in the Canine Host. PLoS One. 11 (2): e0148229.

37. Villaescusa, A. *et al.* (2012) Evaluation of peripheral blood lymphocyte subsets in family-owned dogs naturally infected by *Ehrlichia canis*. <u>Comp Immunol Microbiol Infect</u> Dis. 35 (4): 391-6.

38. Schaut RG *et al.* (2016) Recovery of antigen-specific T cell responses from dogs infected with *Leishmania (L.) infantum* by use of vaccine associated TLR-agonist adjuvant. <u>Vaccine. 34 (44): 5225-5234</u>.

39. Miranda, S. *et al.* (2007) Characterization of circulating lymphocyte subpopulations in canine leishmaniasis throughout treatment with antimonials and allopurinol. <u>Vet Parasitol.</u> <u>144 (3-4): 251-60.</u>

40. Viana, K.F. *et al.* (2016) Application of rapid in vitro co-culture system of macrophages and T-cell subsets to assess the immunogenicity of dogs vaccinated with live attenuated *Leishmania donovani* centrin deleted parasites (LdCen-/-). <u>Parasit Vectors. 9: 250.</u>

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

42. 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>

43. DaSilva, A.V.A. *et al.* (2018) Morphophysiological changes in the splenic extracellular matrix of *Leishmania infantum*-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> <u>e0006445.</u>

44. 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>

45. 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>

	46. Aguiar-Soares, R.D.O. <i>et al.</i> (2020) Phase I and II Clinical Trial Comparing the LBSap, Leishmune <sup>®</sup> , and Leish-Tec <sup>®</sup> Vaccines against Canine Visceral Leishmaniasis. <u>Vaccines</u> ( <u>Basel). 8 (4)Nov 17 [Epub ahead of print].</u>					
Storage	Store at +4°C or at -20°C if preferred.					
	This product should be stored undiluted.					
	Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.					
	Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.					
Guarantee	12 months from date of despatch					
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