

Datasheet: MCA1039A647

**BATCH NUMBER 156285**

<b>Description:</b>	RAT ANTI DOG CD8:Alexa Fluor® 647
<b>Specificity:</b>	CD8
<b>Format:</b>	ALEXA FLUOR® 647
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	YCATE55.9
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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 [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	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 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 systems with appropriate negative/positive controls.

<b>Target Species</b>	Dog		
<b>Product Form</b>	Purified IgG conjugated to Alexa Fluor® 647 - liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	Alexa Fluor®647	650	665
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
<b>Buffer Solution</b>	Phosphate buffered saline		
<b>Preservative</b>	0.09% Sodium Azide		
<b>Stabilisers</b>	1% Bovine Serum Albumin		
<b>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml		

**Immunogen** Canine CD8 alpha chimaeric human IgG1 Fc fusion protein.

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**External Database**

**Links**

**UniProt:**

[P33706](#)    [Related reagents](#)

**Entrez Gene:**

[403157](#)    CD8A    [Related reagents](#)

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**RRID**

AB\_2075548

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**Fusion Partners**

Spleen cells from immunised DA rat were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.

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**Specificity**

**Rat anti Dog CD8 antibody, clone YCATE55.9** was clustered as Canine CD8 in the First Canine Leukocyte Antigen Workshop ([Cobbold et al. 1994](#)). YCATE55.9 reacts with a rat cell line transfected with cDNA for canine CD8 $\alpha$  ([Gorman et al. 1994](#)) and blocks MHC class I dependant T-cell responses *in vitro* and *in vivo*.

Rat anti Dog CD8, clone YCATE55.9 has been shown to deplete circulating CD8+ T cells when administered to dogs *in vivo*. ([Watson et al. 1993](#)) Reduced levels of circulating CD8+ T cells has been associated with decreased survival times for dogs with osteosarcoma ([Biller et al. 2010](#)).

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**Flow Cytometry**

Use 10ul of the suggested working dilution to label 10<sup>6</sup> cells in 100ul.

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**References**

1. 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). [Tissue Antigens. 43 \(3\): 137-54.](#)
2. Gorman, S.D. et al. (1994) Isolation and expression of cDNA encoding the canine CD4 and CD8 alpha antigens. [Tissue Antigens. 43 \(3\): 184-8.](#)
3. Watson, C.J. et al. (1993) CD4 and CD8 monoclonal antibody therapy: strategies to prolong renal allograft survival in the dog. [Br J Surg. 80 \(11\): 1389-92.](#)
4. Papadogiannakis, E.I. et al. (2009) Determination of intracellular cytokines IFN-gamma and IL-4 in canine T lymphocytes by flow cytometry following whole-blood culture. [Can J Vet Res. 73 \(2\): 137-43.](#)
5. Benyacoub, J. et al. (2003) Supplementation of food with *Enterococcus faecium* (SF68) stimulates immune functions in young dogs. [J Nutr. 133: 1158-62.](#)
6. Bird, R.C. et al. (2010) An autologous dendritic cell canine mammary tumor hybrid-cell fusion vaccine. [Cancer Immunol Immunother. 60: 87-97.](#)
7. Bund, D. et al. (2010) Canine-DCs using different serum-free methods as an approach to provide an animal-model for immunotherapeutic strategies. [Cell Immunol. 263: 88-98.](#)
8. 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. [BMC Cancer. 10: 256.](#)
9. Huang, Y.C. et al. (2008) CD5-low expression lymphocytes in canine peripheral blood show characteristics of natural killer cells. [J Leukoc Biol. 84: 1501-10.](#)
10. Kornegay, J.N. et al. (2010) Widespread muscle expression of an AAV9 human

- mini-dystrophin vector after intravenous injection in neonatal dystrophin-deficient dogs. [Mol Ther. 18: 1501-8.](#)
11. Pichavant, C. *et al.* (2010) Expression of dog microdystrophin in mouse and dog muscles by gene therapy. [Mol Ther. 18: 1002-9.](#)
  12. Pinheiro, D. *et al.* (2011) Phenotypic and functional characterization of a CD4(+) CD25(high) FOXP3(high) regulatory T-cell population in the dog. [Immunology. 132: 111-22.](#)
  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*. [Clin Exp Immunol. 146: 303-11.](#)
  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.](#)
  15. Costa-Pereira, C. *et al.* (2015) One-year timeline kinetics of cytokine-mediated cellular immunity in dogs vaccinated against visceral leishmaniasis. [BMC Vet Res. 11 \(1\): 92.](#)
  16. Schaut, R.G. *et al.* (2016) Regulatory IgDhi B Cells Suppress T Cell Function via IL-10 and PD-L1 during Progressive Visceral Leishmaniasis. [J Immunol. Apr 13. pii: 1502678.](#) [\[Epub ahead of print\]](#)
  17. Tagawa, M. *et al.* (2016) Evaluation of Costimulatory Molecules in Peripheral Blood Lymphocytes of Canine Patients with Histiocytic Sarcoma. [PLoS One. 11 \(2\): e0150030.](#)
  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. [Cytometry B Clin Cytom. Dec 13. \[Epub ahead of print\]](#)
  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. [BMC Vet Res. 11: 295.](#)
  20. Miller, J. *et al.* (2015) Humoral and Cellular Immune Response in Canine Hypothyroidism. [J Comp Pathol. 153 \(1\): 28-37.](#)
  21. Riondato, F. *et al.* (2016) Identification of a suitable internal control for fluorescence analysis on canine peripheral blood samples. [Vet Immunol Immunopathol. 172: 38-42.](#)
  22. Martini, V. *et al.* (2015) Canine small clear cell/T-zone lymphoma: clinical presentation and outcome in a retrospective case series. [Vet Comp Oncol. Jun 3. \[Epub ahead of print\]](#)
  23. Gelain, M.E. *et al.* (2014) CD44 in canine leukemia: analysis of mRNA and protein expression in peripheral blood. [Vet Immunol Immunopathol. 159 \(1-2\): 91-6.](#)
  24. Duz AL *et al.* (2014) The TcI and TcII *Trypanosoma cruzi* experimental infections induce distinct immune responses and cardiac fibrosis in dogs. [Mem Inst Oswaldo Cruz. 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 [Arq. Bras. Med. Vet. Zootec., v.68, n.1, p.1-9, 2016](#)
  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. [Immunobiology. 221 \(1\): 12-22.](#)
  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*. [Vet Parasitol. 211 \(3-4\): 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. [J Vet Med Sci. Jan 2. \[Epub ahead of print\]](#)
30. Miglio, A. *et al.* (2014) Acute undifferentiated leukaemia in a dog. [Aust Vet J. 92 \(12\): 499-503.](#)
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*. [Vet J. 204 \(3\): 263-8.](#)
32. Fiuza JA *et al.* (2015) Vaccination using live attenuated *Leishmania donovani* centrin deleted parasites induces protection in dogs against *Leishmania infantum*. [Vaccine. 33 \(2\): 280-8.](#)
33. Perosso, J. *et al.* (2014) Alteration of sFAS and sFAS ligand expression during canine visceral leishmaniasis. [Vet Parasitol. 205 \(3-4\): 417-23.](#)
34. Heinrich, F. *et al.* (2015) Immunophenotyping of immune cell populations in the raccoon (*Procyon lotor*). [Vet Immunol Immunopathol. 168 \(3-4\): 140-6.](#)
35. Poggi A *et al.* (2016) Prognostic significance of Ki67 evaluated by flow cytometry in dogs with high-grade B-cell lymphoma. [Vet Comp Oncol. Jan 21. \[Epub ahead of print\]](#)
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*. [Comp Immunol Microbiol Infect 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. [Vaccine. 34 \(44\): 5225-5234.](#)
39. Miranda, S. *et al.* (2007) Characterization of circulating lymphocyte subpopulations in canine leishmaniasis throughout treatment with antimonials and allopurinol. [Vet Parasitol. 144 \(3-4\): 251-60.](#)
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-/-). [Parasit Vectors. 9: 250.](#)
41. Michael, H.T. *et al.* (2013) Isolation and characterization of canine natural killer cells. [Vet Immunol Immunopathol. 155 \(3\): 211-7.](#)
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. [Vet Immunol Immunopathol. 145 \(3-4\): 597-603.](#)
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. [PLoS Negl Trop Dis. 12 \(4\): e0006445.](#)
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. [Front Immunol. 8: 217.](#)
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. [BMC Vet Res. 9: 94.](#)

46. Aguiar-Soares, R.D.O. *et al.* (2020) Phase I and II Clinical Trial Comparing the LBSap, Leishmune<sup>®</sup>, and Leish-Tec<sup>®</sup> Vaccines against Canine Visceral Leishmaniasis. [Vaccines \(Basel\). 8 \(4\)Nov 17 \[Epub ahead of print\].](#)

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**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.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1039A647>  
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**Regulatory** For research purposes only

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## Related Products

### Recommended Negative Controls

[RAT IgG1 NEGATIVE CONTROL:Alexa Fluor<sup>®</sup> 647 \(MCA6004A647\)](#)

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