

Datasheet: MCA1039A647

Description:	RAT ANTI DOG CD8:Alexa Fluor® 647
Specificity:	CD8
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	YCATE55.9
Isotype:	IgG1
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 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.

Target Species	Dog		
Product Form	Purified IgG conjugated to Alexa Fluor 647 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (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 (NaN ₃)		
	1% bovine serum albumin		
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml		
Immunogen	Canine CD8 alpha chimaeric human IgG1 Fc fusion protein.		

External Database Links	UniProt: P33706 Related reagents
	Entrez Gene: 403157 CD8A Related reagents
RRID	AB_2075548
Fusion Partners	Spleen cells from immunized DA rat were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.
Specificity	<p>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 CD8α (Gorman et al. 1994) and blocks MHC class I dependant T-cell responses <i>in vitro</i> and <i>in vivo</i>.</p> <p>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 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).</p>
Flow Cytometry	Use 10 μ l of the suggested working dilution to label 10 ⁶ cells in 100 μ l
References	<ol style="list-style-type: none"> 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 <i>Enterococcus faecium</i> (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. 196 \(10\): 4100-9.](#)
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.* (2016) 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. 90 \(6\): 525-30.](#)
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.* (2016) Canine small clear cell/T-zone lymphoma: clinical presentation and outcome in a retrospective case series. [Vet Comp Oncol. 14 Suppl 1: 117-26.](#)
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. 68 \(1\): 1-9.](#)
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. 78 \(4\): 579-85.](#)

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 leishmaniosis. [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.* (2017) Prognostic significance of Ki67 evaluated by flow cytometry in dogs with high-grade B-cell lymphoma. [Vet Comp Oncol. 15 \(2\): 431-40.](#)
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 \(44\): 5225-34.](#)
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®, and Leish-Tec® Vaccines against Canine Visceral Leishmaniasis. [Vaccines \(Basel\). 8 \(4\): 690.](#)
47. 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. [Res Vet Sci. 125: 130-5.](#)
48. Martins, G.C. *et al.* (2018) Clinical-pathological and immunological biomarkers in dogs with atopic dermatitis. [Vet Immunol Immunopathol. 205: 58-64.](#)
49. Anai, L.A. *et al.* (2017) Quantification of Treg cells in peripheral blood and lymph nodes of dogs with multicentric lymphoma [Arq. Bras. Med. Vet. Zootec. 69 \(6\): 1496-502.](#)
50. Wolf-Ringwall, A. *et al.* (2020) Prospective evaluation of flow cytometric characteristics, histopathologic diagnosis and clinical outcome in dogs with naïve B-cell lymphoma treated with a 19-week CHOP protocol. [Vet Comp Oncol. 18 \(3\): 342-52.](#)
51. Sayag, D. *et al.* (2020) Proof-of-concept study: Evaluation of plasma and urinary electrolytes as markers of response to L-asparaginase therapy in dogs with high-grade lymphoma. [Vet Clin Pathol. 49 \(3\): 476-83.](#)
52. Grudzien, M. *et al.* (2021) A newly established canine NK-type cell line and its cytotoxic properties. [Vet Comp Oncol. 19 \(3\): 567-77.](#)
53. Pellin, M.A. *et al.* (2017) Safety evaluation of combination doxorubicin and toceranib phosphate (Palladia®) in tumour bearing dogs: a phase I dose-finding study. [Vet Comp Oncol. 15 \(3\): 919-31.](#)
54. Kanei, T. *et al.* (2022) Expression and functional analysis of chemokine receptor 7 in canine lymphoma cell lines. [J Vet Med Sci. 84 \(1\): 25-30.](#)
55. Lee, S.H. *et al.* (2021) Safety and immunological effects of recombinant canine IL-15 in dogs. [Cytokine. 148: 155599.](#)
56. Knebel, A. *et al.* (2021) Measurement of canine Th17 cells by flow cytometry. [Vet Immunol Immunopathol. 243: 110366.](#)
57. do Prado Duzanski, A. *et al.* (2022) Cell-mediated immunity and expression of MHC class I and class II molecules in dogs naturally infected by canine transmissible venereal tumor: Is there complete spontaneous regression outside the experimental CTVT? [Research in Veterinary Science. 145: 193-204.](#)
58. Bragato, J.P. *et al.* (2022) miRNA-21 regulates CD69 and IL-10 expression in canine leishmaniasis. [PLoS One. 17 \(3\): e0265192.](#)
59. Riccardo, F. *et al.* (2022) Antigen mimicry as an effective strategy to induce CSPG4-targeted immunity in dogs with oral melanoma: a veterinary trial. [J Immunother Cancer. 10 \(5\): e004007.](#)
60. Troupel, T. *et al.* (2022) Generalised idiopathic polymyositis mimicking masticatory myositis in a dog [Vet Rec Case Rep. 10: e452.](#)
61. Konno, H. *et al.* (2022) An experimental challenge model for *Leishmania donovani* in beagle dogs, showing a similar pattern of parasite burden in the peripheral blood and liver. [Parasitol Res. 121 \(12\): 3569-79.](#)
62. Matralis, D.T. *et al.* (2023) Intracellular IFN- γ and IL-4 levels of CD4 + and CD8 + T cells in the peripheral blood of naturally infected (*Leishmania infantum*) symptomatic dogs before and following a 4-week treatment with miltefosine and allopurinol: a double-blinded, controlled and cross-sectional study. [Acta Vet Scand. 65 \(1\): 2.](#)
63. Hamouzová, P. *et al.* (2023) Lymphocyte immunophenotyping in dogs with lymphopenia of common causes. [Vet Immunol Immunopathol. 261: 110620.](#)
64. Bencze, M. *et al.* (2023) Receptor interacting protein kinase-3 mediates both myopathy and cardiomyopathy in preclinical animal models of Duchenne muscular dystrophy. [J Cachexia Sarcopenia Muscle. 14 \(6\): 2520-31.](#)
65. Zwueste, D.M. *et al.* (2023) Oral cytarabine ocfosphate pharmacokinetics and

- assessment of leukocyte biomarkers in normal dogs. [J Vet Intern Med. 37 \(6\): 2429-42.](#)
66. Martini, V. *et al.* (2018) A retrospective study of flow cytometric characterization of suspected extranodal lymphomas in dogs. [J Vet Diagn Invest. 30 \(6\): 830-6.](#)
67. Lee, G.W. *et al.* (2021) Case Report: Long-Term Survival of a Dog With Chronic Lymphocytic Leukemia Treated With Chlorambucil, Prednisolone, and Imatinib. [Front Vet Sci. 8: 625527.](#)
68. Sainz, Á. *et al.* (2021) Effect of chemically modified tetracycline-8 (CMT-8) on hematology, blood chemistry, cytokines and peripheral blood lymphocyte subsets of healthy dogs. [Res Vet Sci. 136: 200-8.](#)
69. Hughes, K. *et al.* (2024) Canine T zone lymphoma is a tumor of mature, previously activated $\alpha\beta$ T cells [Vet Immunol Immunopathol. 110725.](#)
70. Anthonyraj, S. *et al.* (2024) Chicory root powder included as a prebiotic in different cereal-based diets for dogs: Influences on gut health, metabolic and immunological status [Bioactive Carbohydrates and Dietary Fibre. : 100414.](#)
71. Sheng, R. *et al.* (2023) Prognostic significance of CD25 expression in dogs with a noninvasive diagnosis of B-cell lymphoma treated with CHOP chemotherapy. [Vet Comp Oncol. 21 \(1\): 28-35.](#)
72. Miguelena Chamorro, B. *et al.* (2023) Characterization of Canine Peyer's Patches by Multidimensional Analysis: Insights from Immunofluorescence, Flow Cytometry, and Single-Cell RNA Sequencing. [Immunohorizons. 7 \(11\): 788-805.](#)

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. This product is photosensitive and should be protected from light.

Guarantee

12 months from date of despatch

Acknowledgements

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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

Related Products

Recommended Negative Controls

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

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