

Datasheet: MCA1039A700

BATCH NUMBER 168859

Description:	RAT ANTI DOG CD8:Alexa Fluor® 700
Specificity:	CD8
Format:	ALEXA FLUOR® 700
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 700 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®700	702	723
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% sodium azide (NaN ₃)		
Stabilisers	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_2075546

Fusion Partners

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

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 α ([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](#)).

Flow Cytometry

Use 10 μ l of the suggested working dilution to label 10⁶ cells in 100 μ l

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. 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. Zweste, D.M. *et al.* (2023) Oral cytarabine ocfosfate 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.](#)
73. Santos, M.F. *et al.* (2020) Immunophenotyping of Peripheral Blood, Lymph Node, and Bone Marrow T Lymphocytes During Canine Leishmaniosis and the Impact of Antileishmanial Chemotherapy. [Front Vet Sci. 7: 375.](#)
74. Dinau, F.C. *et al.* (2025) Exploring the dynamics of IL-6, TGF- β 1, and CD8+ T cells in the canine transmissible venereal tumor: new perspectives [Pak Vet J. 17 Feb \[Epub ahead of print\].](#)
75. Rogato, F. *et al.* (2024) Leukemia cutis as a prominent clinical sign in a dog with acute myeloid leukemia. [Vet Clin Pathol. 53 \(4\): 448-57.](#)
76. De Maria, R. *et al.* (2025) Development and activity of canine B7-H3-CAR.CIK lymphocytes against sarcomas: preclinical evidence and perspectives for human clinical translation. [Cancer Immunol Immunother. 74 \(10\): 306.](#)
77. Lang, H.P. *et al.* (2025) Rabies vaccination induces a CD4⁺ T_{EM} and CD4⁺CD8⁺ T_{EMRA} T_{H1} phenotype in dogs. [PLoS One. 20 \(5\): e0323823.](#)

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 This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase

product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com

Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA1039A700
--------------------------------------	--

Regulatory	For research purposes only
-------------------	----------------------------

Related Products

Recommended Negative Controls

[RAT IgG1 NEGATIVE CONTROL:Alexa Fluor® 700 \(MCA6004A700\)](#)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M407924:221010'

Printed on 11 Mar 2026

© 2026 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)