

Datasheet: MCA1039GA

BATCH NUMBER 149349

Description: RAT ANTI DOG CD8		
Specificity: CD8		
Format:	Purified	
Product Type:	Monoclonal Antibody	
Clone:	YCATE55.9	
Isotype:	lgG1	
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 www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	•			1/50 - 1/100
Immunohistology - Frozen	•			
Immunohistology - Paraffin				
ELISA			•	
Immunoprecipitation			•	
Western Blotting			•	
Immunofluorescence				

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 system using appropriate negative/positive controls.

Target Species	Dog	
Product Form	Purified IgG - liquid	
Preparation	Purified IgG prepared by affinity chromatography on Protein (supernatant	G from tissue culture
Buffer Solution	Phosphate buffered saline	
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃)	

Carrier Free	Yes		
Approx. Protein Concentrations	IgG concentration 1 mg/ml		
Immunogen	Canine CD8 alpha chimaeric human IgG1 Fc fusion protein.		
External Database Links	UniProt: P33706 Related reagents		
	Entrez Gene:		

CD8A Related reagents

403157

Fusion Partners

Spleen cells from immunised 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 CD8α (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 10ul of the suggested working dilution to label 1 x 10⁶ cells in 100ul.

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. <u>Tissue Antigens</u>. <u>43 (3): 184-8.</u>
- 3. Watson, C.J. *et al.* (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>
- 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. <u>Can J Vet Res.</u> 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. <u>BMC Cancer. 10: 256.</u>

- 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. <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> 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. <u>BMC Vet Res. 11 (1): 92.</u>
- 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. <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. 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. <u>Vet Immunol Immunopathol.</u> 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. <u>Vet Comp Oncol. Jun 3. [Epub ahead of print]</u>
- 23. Gelain, M.E. *et al.* (2014) CD44 in canine leukemia: analysis of mRNA and protein expression in peripheral blood. <u>Vet Immunol Immunopathol</u>. 159 (1-2): 91-6.
- 24. Duz AL *et al.* (2014) The Tcl and Tcll *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 <u>Arq. Bras. 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. 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*. <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. <u>J Vet Intern Med. 30 (1): 215-22.</u>
- 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> 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*. <u>Vaccine</u>. 33 (2): 280-8.
- 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*. 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. <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> 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-/-). <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. 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. <u>Vaccines</u> (Basel). 8 (4)Nov 17 [Epub ahead of print].

Storage Store at +4°C or at -20°C if preferred.

> This product should be stored undiluted. 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

Health And Safety Information

Material Safety Datasheet documentation #10040 available at:

https://www.bio-rad-antibodies.com/SDS/MCA1039GA

10040

Regulatory For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...) DyLight®800

Rabbit Anti Rat IgG (STAR17...) **FITC** Goat Anti Rat IgG (STAR73...) **RPE** Rabbit Anti Rat IgG (STAR21...) **HRP**

Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...) <u>DyLight®550</u>, <u>DyLight®650</u>, <u>DyLight®800</u>

Goat Anti Rat IgG (STAR131...) Alk. Phos., Biotin

Goat Anti Rat IgG (STAR72...) HRP Goat Anti Rat IgG (STAR69...) **FITC**

Recommended Negative Controls

RAT IgG1 NEGATIVE CONTROL (MCA6004GA)

North & South Tel: +1 800 265 7376 Tel: +44 (0)1865 852 700 Tel: +49 (0) 89 8090 95 21 Worldwide Europe 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 'M364694:200529

Printed on 23 May 2025

© 2025 Bio-Rad Laboratories Inc | Legal | Imprint