

Datasheet: MCA1774F

Description:	MOUSE ANTI DOG CD3:FITC
Specificity:	CD3
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	CA17.2A12
Isotype:	IgG1
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	▪			Neat - 1/10

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 conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	FITC	490	525
Preparation	Purified IgG prepared by affinity chromatography on Protein G		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein Concentrations	IgG concentration 0.1 mg/ml		
Immunogen	Affinity enriched TCR/CD3 membrane proteins isolated from thymocytes and the T cell		

External Database

Links

UniProt:

[P27597](#) [Related reagents](#)

Entrez Gene:

[442981](#) CD3E [Related reagents](#)

RRID

AB_2291174

Specificity

Mouse anti Dog CD3 antibody, clone CA17.2A12 recognizes the canine CD3 cell surface antigen, expressed by thymocytes and mature T lymphocytes. CD3 is engaged in the surface expression of the T-cell antigen receptor (TCR) and the signal transduction pathway resulting from MHC ligand binding to the TCR. CD3 is made up of a number of invariant subchains of the immunoglobulin superfamily.

Mouse anti Dog CD3 clone CA17.2A12 is a valuable flow cytometric and immunohistologic tool for canine lymphoma detection of T-cell origin ([Miniscalco et al. 2003](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10^6 cells or 100ul whole blood.

N.B. MCA1774F should not be used with MCA1781PE (mouse anti canine B-cells), in dual colour flow cytometry, due to non-specific interactions between the two reagents.

References

1. Moore, P.F. and Rossitto, P.V. (1993) Development of monoclonal antibodies to canine T cell receptor complex (TCR/CD3) and their utilisation in the diagnosis of T cell neoplasia. [Vet. Pathol. 30: 457. Abstract 117](#)
2. McDonough, S. P. and Moore, P. F. (2000) Clinical, hematologic, and immunophenotypic characterization of canine large granular lymphocytosis. [Vet Pathol. 37:637-46.](#)
3. Moore, P.F. et al. (2006) Canine hemophagocytic histiocytic sarcoma: a proliferative disorder of CD11d+ macrophages. [Vet Pathol. 43 \(5\): 632-45.](#)
4. Vernau, W and Moore, P. F. (1999) An immunophenotypic study of canine leukemias and preliminary assessment of clonality by polymerase chain reaction. [Vet Immunol Immunopathol. 69:145-64.](#)
5. Moreno, J. et al (1999) The immune response and PBMC subsets in canine visceral leishmaniasis before, and after, chemotherapy. [Vet Immunol Immunopathol. 71:181-95.](#)
6. Fellman, C.L. et al. (2011) Cyclosporine A affects the *in vitro* expression of T cell activation-related molecules and cytokines in dogs. [Vet Immunol Immunopathol. 140: 175-80.](#)
7. Watabe, A. et al. (2011) Alterations of lymphocyte subpopulations in healthy dogs with aging and in dogs with cancer. [Vet Immunol Immunopathol. 142: 189-200.](#)
8. Hsiao, Y.W. et al (2004) Tumor-infiltrating lymphocyte secretion of IL-6 antagonizes tumor-derived TGF-beta 1 and restores the lymphokine-activated killing activity. [J Immunol. 172: 1508-14.](#)
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. Out, T.A. *et al.* (2002) Local T-cell activation after segmental allergen challenge in the lungs of allergic dogs. [Immunology. 105: 499-508.](#)
 11. Zentek, J. *et al.* (2002) Morphology and immunopathology of the small and large intestine in dogs with nonspecific dietary sensitivity. [J Nutr. 132: 1652S-4S.](#)
 12. Hai, M. *et al.* (2008) Potential genotoxicity from integration sites in CLAD dogs treated successfully with gammaretroviral vector-mediated gene therapy. [Gene Ther. 15: 1067-71.](#)
 13. Altmann, S. *et al.* (2008) High Mobility Group Box 1-Protein expression in canine haematopoietic cells and influence on canine peripheral blood mononuclear cell proliferative activity [Vet Immunol Immunopathol. 126: 367-72.](#)
 14. Ting-De Ravin, S.S. *et al.* (2006) Correction of canine X-linked severe combined immunodeficiency by in vivo retroviral gene therapy. [Blood. 107: 3091-7.](#)
 15. Miranda, S. *et al.* (2007) Characterization of circulating lymphocyte subpopulations in canine leishmaniasis throughout treatment with antimonials and allopurinol. [Vet Parasitol. 144: 251-60.](#)
 16. Maiolini, A. *et al.* (2012) Toll-like receptors 4 and 9 are responsible for the maintenance of the inflammatory reaction in canine steroid-responsive meningitis-arteritis, a large animal model for neutrophilic meningitis. [J Neuroinflammation. 9: 226.](#)
 17. Aresu, L. *et al.* (2014) VEGF and MMP-9: biomarkers for canine lymphoma. [Vet Comp Oncol. 12: 29-36.](#)
 18. 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.](#)
 19. 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.](#)
 20. 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 \(6\): 525-530.](#)
 21. Byrne, K. *et al.* (2000) A standardized gating technique for the generation of flow cytometry data for normal canine and normal feline blood lymphocytes. [Vet Immunol Immunopathol. 73:167-82.](#)
 22. Perosso, J. *et al.* (2014) Alteration of sFAS and sFAS ligand expression during canine visceral leishmaniosis. [Vet Parasitol. 205 \(3-4\): 417-23.](#)
 23. Grøndahl-Rosado C *et al.* (2015) NCR1+ cells in dogs show phenotypic characteristics of natural killer cells. [Vet Res Commun. 39 \(1\): 19-30.](#)
 24. Miller, J. *et al.* (2015) Humoral and Cellular Immune Response in Canine Hypothyroidism. [J Comp Pathol. 153 \(1\): 28-37.](#)
 25. 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.](#)
 26. Constantinoiu CC *et al.* (2015) Mucosal tolerance of the hookworm *Ancylostoma caninum* in the gut of naturally infected wild dogs. [Parasite Immunol. Jul 27 \[Epub ahead of print\]](#)
 27. Duz, A.L. *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.](#)
 28. Mie, K. *et al.* (2016) Change in peripheral blood lymphocyte count in dogs following

- adoptive immunotherapy using lymphokine-activated T killer cells combined with palliative tumor resection. [Vet Immunol Immunopathol. 177: 58-63.](#)
29. Schaut, R.G. *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.](#)
30. 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.](#)
31. Michael, H.T. *et al.* (2013) Isolation and characterization of canine natural killer cells. [Vet Immunol Immunopathol. 155 \(3\): 211-7.](#)
32. 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.](#)
33. Schmidli, M.R. *et al.* (2018) Inflammatory pattern of the infrapatellar fat pad in dogs with canine cruciate ligament disease. [BMC Vet Res. 14 \(1\): 161.](#)
34. 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.](#)
35. 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 \(4\)Nov 17 \[Epub ahead of print\].](#)
36. Marchetti, C. *et al.* (2020) Profile of gamma-delta ($\gamma\delta$) T lymphocytes in the peripheral blood of crossbreed dogs during stages of life and implication in aging. [BMC Vet Res. 16 \(1\): 278.](#)
37. Akiyama, S. *et al.* (2019) Th17 cells increase during maturation in peripheral blood of healthy dogs. [Vet Immunol Immunopathol. 209: 17-21.](#)
38. Martins, G.C. *et al.* (2018) Clinical-pathological and immunological biomarkers in dogs with atopic dermatitis. [Vet Immunol Immunopathol. 205: 58-64.](#)
39. 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.](#)
40. Lee, J. *et al.* (2021) Canine Natural Killer Cell-Derived Exosomes Exhibit Antitumor Activity in a Mouse Model of Canine Mammary Tumor. [Biomed Res Int. 2021: 6690704.](#)
41. Rotolo, A. *et al.* (2021) Genetic re-direction of canine primary T cells for clinical trial use in pet dogs with spontaneous cancer [STAR Protocols. 2 \(4\): 100905.](#)
42. Grudzien, M. *et al.* (2021) A newly established canine NK-type cell line and its cytotoxic properties. [Vet Comp Oncol. 19 \(3\): 567-77.](#)
43. Yang, Y. *et al.* (2021) Canine Multicentric Large B Cell Lymphoma with Increased Mott Cells Diagnosed by Flow Cytometry [Journal of Veterinary Clinics. 38 \(1\): 36-40.](#)
44. Enciso, N. *et al.* (2020) Regenerative potential of allogeneic adipose tissue-derived mesenchymal cells in canine cutaneous wounds. [Acta Vet Scand. 62 \(1\): 13.](#)
45. Lee, S.H. *et al.* (2021) Safety and immunological effects of recombinant canine IL-15 in dogs. [Cytokine. 148: 155599.](#)
46. Knebel, A. *et al.* (2021) Measurement of canine Th17 cells by flow cytometry. [Vet Immunol Immunopathol. 243: 110366.](#)

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
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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
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Regulatory	For research purposes only
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Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:FITC \(MCA928F\)](#)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
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'M384982:210513'

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