Datasheet: MCA1774A700

Description:	MOUSE ANTI DOG CD3:Alexa Fluor® 700
Specificity:	CD3
Format:	ALEXA FLUOR® 700
Product Type:	Monoclonal Antibody
Clone:	CA17.2A12
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

Where this product 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 product for use in their own system using 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 Stabilisers

0.09% sodium azide (NaN_3)
1% bovine serum albumin

Approx. Protein Concentrations

IgG concentration 0.05 mg/ml

Immunogen

Affinity enriched TCR/CD3 membrane proteins isolated from thymocytes and the T cell

line CLGL-90

External Database Links

UniProt:

P27597 Related reagents

Entrez Gene:

442981 CD3E Related reagents

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 10µl of the suggested working dilution to label 10^6 cells or 100µl whole blood.
N.B.. MCA1774F should not be used with MCA1781PE (mouse anti canine B-cells), in dual color 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. 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.
3. 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.
4. McDonough, S. P. and Moore, P. F. (2000) Clinical, hematologic, and immunophenotypic characterization of canine large granular lymphocytosis. Vet Pathol. 37:637-46.
5. 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.
6. Out, T.A. *et al.* (2002) Local T-cell activation after segmental allergen challenge in the lungs of allergic dogs. Immunology. 105: 499-508.
7. 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.
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. Moore, P.F. *et al.* (2006) Canine hemophagocytic histiocytic sarcoma: a proliferative disorder of CD11d+ macrophages. Vet Pathol. 43 (5): 632-45.
10. 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.

11. Miranda, S. *et al.* (2007) Characterization of circulating lymphocyte subpopulations in canine leishmaniasis throughout treatment with antimonials and allopurinol. Vet Parasitol. 144: 251-60.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. Machado, G.F. *et al.* (2011) Intravascular Lymphomatosis in the Central Nervous System of Dogs: Immunohistochemical Investigation in Two Cases Braz J Vet Pathol 4: 47-51.
18. 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.
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. 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.
21. Michael, H.T. *et al.* (2013) Isolation and characterization of canine natural killer cells. Vet Immunol Immunopathol. 155 (3): 211-7.
22. 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.
23. Aresu, L. *et al.* (2014) VEGF and MMP-9: biomarkers for canine lymphoma. Vet Comp Oncol. 12: 29-36.
24. Perosso, J. *et al.* (2014) Alteration of sFAS and sFAS ligand expression during canine visceral leishmaniosis. Vet Parasitol. 205 (3-4): 417-23.
25. 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.
26. Constantinoiu, C.C. *et al.* (2015) Mucosal tolerance of the hookworm Ancylostoma caninum in the gut of naturally infected wild dogs. Parasite Immunol. 37 (10): 510-20.
27. Grøndahl-Rosado C *et al.* (2015) NCR1+ cells in dogs show phenotypic characteristics of natural killer cells. Vet Res Commun. 39 (1): 19-30.
28. Miller, J. *et al.* (2015) Humoral and Cellular Immune Response in Canine Hypothyroidism. J Comp Pathol. 153 (1): 28-37.
29. 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.
30. 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.
31. 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.
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. 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.
34. 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.
35. Martins, G.C. *et al.* (2018) Clinical-pathological and immunological biomarkers in dogs with atopic dermatitis. Vet Immunol Immunopathol. 205: 58-64.
36. 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.
37. Akiyama, S. *et al.* (2019) Th17 cells increase during maturation in peripheral blood of healthy dogs. Vet Immunol Immunopathol. 209: 17-21.
38. 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.
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. Enciso, N. *et al.* (2020) Regenerative potential of allogeneic adipose tissue-derived mesenchymal cells in canine cutaneous wounds. Acta Vet Scand. 62 (1): 13.
41. Marchetti, C. *et al.* (2020) Profile of gamma-delta (γδ) T lymphocytes in the peripheral blood of crossbreed dogs during stages of life and implication in aging. BMC Vet Res. 16 (1): 278.
42. 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.
43. 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.
44. Grudzien, M. *et al.* (2021) A newly established canine NK-type cell line and its cytotoxic properties. Vet Comp Oncol. 19 (3): 567-77.
45. 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.
46. Lee, S.H. *et al.* (2021) Safety and immunological effects of recombinant canine IL-15 in dogs. Cytokine. 148: 155599.
47. Knebel, A. *et al.* (2021) Measurement of canine Th17 cells by flow cytometry. Vet Immunol Immunopathol. 243: 110366.
48. Troupel, T. *et al.* (2022) Generalised idiopathic polymyositis mimicking masticatory myositis in a dog Vety Rec Case Rep. 10: e452.
49. 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.
50. 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): 3569-3579.
51. Rotolo, A. *et al.* (2023) Unedited allogeneic iNKT cells show extended persistence in MHC-mismatched canine recipients. Cell Rep Med. 4 (10): 101241.
52. Wesolowski, M. *et al.* (2023) Long-term changes of Th17 and regulatory T cells in peripheral blood of dogs with spinal cord injury after intervertebral disc herniation. BMC Vet Res. 19 (1): 90.
53. Yamauchi, A. *et al.* (2023) Negative Influence of Aging on Differentiation and Proliferation of CD8(+) T-Cells in Dogs. Vet Sci. 10 (9): 541.
54. 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.
55. Archer, T.M. *et al.* (2018) *In vivo* effects of aspirin and cyclosporine on regulatory T cells and T-cell cytokine production in healthy dogs. Vet Immunol Immunopathol. 197: 63-8.
56. 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.
57. 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.
58. Hughes, K. *et al.* (2024) Canine T zone lymphoma is a tumor of mature, previously activated αβ T cells Vet Immunol Immunopathol. 110725.
59. 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. [Pre-proof]
60. 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.
61. 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.

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 purchased 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/MCA1774A700 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 700 (MCA928A700)

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

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

'M426368:231221'

Printed on 21 Mar 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint