

## Datasheet: MCA1774GA

**BATCH NUMBER 163954**

|                      |                     |
|----------------------|---------------------|
| <b>Description:</b>  | MOUSE ANTI DOG CD3  |
| <b>Specificity:</b>  | CD3                 |
| <b>Format:</b>       | Purified            |
| <b>Product Type:</b> | Monoclonal Antibody |
| <b>Clone:</b>        | CA17.2A12           |
| <b>Isotype:</b>      | IgG1                |
| <b>Quantity:</b>     | 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](http://www.bio-rad-antibodies.com/protocols).

|                            | Yes | No | Not Determined | Suggested Dilution |
|----------------------------|-----|----|----------------|--------------------|
| Flow Cytometry             | ▪   |    |                | 1/25 - 1/50        |
| Immunohistology - Frozen   | ▪   |    |                |                    |
| Immunohistology - Paraffin |     |    | ▪              |                    |
| ELISA                      |     |    | ▪              |                    |
| Immunoprecipitation        | ▪   |    |                |                    |
| Western Blotting           |     |    | ▪              |                    |
| Immunofluorescence         | ▪   |    |                |                    |

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.

|                                 |  |
|---------------------------------|--|
| <b>Target Species</b>           | Dog  |
| <b>Product Form</b>             | Purified IgG - liquid  |
| <b>Preparation</b>              | Purified IgG prepared by affinity chromatography on Protein G from ascites |
| <b>Buffer Solution</b>          | Phosphate buffered saline  |
| <b>Preservative Stabilisers</b> | 0.09% sodium azide (NaN <sub>3</sub> )                                     |
| <b>Approx. Protein</b>          | IgG concentration 1.0 mg/ml  |

## Concentrations

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**Immunogen** Affinity enriched TCR/CD3 membrane proteins isolated from thymocytes and the T cell line CLGL-90

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## External Database

### Links

#### UniProt:

[P27597](#)    [Related reagents](#)

#### Entrez Gene:

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

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**RRID** AB\_1125250

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## 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](#)).

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## Flow Cytometry

Use 10µl of the suggested working dilution to label 10<sup>6</sup> cells or 100µl whole blood

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## 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 leishmaniasis. [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 ( $\gamma\delta$ ) T lymphocytes in the peripheral blood of crossbreed dogs during stages of life and implication in aging. [BMC Vet Res. 16 \(1\): 278.](#)
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.](#)

**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

**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1774GA>  
10040

**Regulatory** For research purposes only

## Related Products

### Recommended Secondary Antibodies

- Rabbit Anti Mouse IgG (STAR12...) [RPE](#)
- Goat Anti Mouse IgG IgA IgM (STAR87...) [HRP](#)
- Goat Anti Mouse IgG (STAR76...) [RPE](#)
- Goat Anti Mouse IgG (STAR70...) [FITC](#)
- Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight@488](#), [DyLight@550](#), [DyLight@650](#), [DyLight@680](#), [DyLight@800](#), [FITC](#), [HRP](#)
- Rabbit Anti Mouse IgG (STAR9...) [FITC](#)
- Goat Anti Mouse IgG (STAR77...) [HRP](#)
- Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)
- Rabbit Anti Mouse IgG (STAR13...) [HRP](#)

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

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