

Datasheet: MCA1042A488

BATCH NUMBER 172105

Description:	RAT ANTI DOG CD45:Alexa Fluor® 488
Specificity:	CD45
Format:	ALEXA FLUOR® 488
Product Type:	Monoclonal Antibody
Clone:	YKIX716.13
Isotype:	IgG2b
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 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 488 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®488	495	519
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 thymocytes.
RRID	AB_10675499
Fusion Partners	Spleen cells from immunized DA rats were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.
Specificity	Rat anti Dog CD45 antibody, clone YKIX716.13 recognizes canine CD45 also known as leukocyte common antigen clustered as Canine CD45 in the First Canine Leukocyte Antigen Workshop (CLAW). Clone YKIX 716.13: immunoprecipitates an antigen of ~180/200 kDa from Con-A blasts (Cobbold et al. 1994). CD45 is expressed on all leukocytes in canine peripheral blood. Rat anti Dog CD45 antibody, clone YKIX716.13 reacts with CD45 on all outbred mongrels and beagles tested and may be against CD45RB isoform.
Flow Cytometry	Use 10µl of the suggested working dilution to label 10 ⁶ cells in 100µl
References	<ol style="list-style-type: none"> 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. 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. 3. Sanchez, M.A. et al. (2004) Organ-specific immunity in canine visceral leishmaniasis: analysis of symptomatic and asymptomatic dogs naturally infected with <i>Leishmania chagasi</i>. Am J Trop Med Hyg. 70: 618-24. 4. 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 <i>Leishmania chagasi</i>. Clin Exp Immunol. 146: 303-11. 5. Comazzi, S. et al. (2006) Flow cytometric patterns in blood from dogs with non-neoplastic and neoplastic hematologic diseases using double labeling for CD18 and CD45. Vet Clin Pathol. 35: 47-54. 6. Stein, V.M. et al. (2008) Immunophenotypical characterization of monocytes in canine distemper virus infection. Vet Microbiol. 131:237-46. 7. Tominaga, M. et al. (2010) Flow cytometric analysis of peripheral blood and tumor-infiltrating regulatory T cells in dogs with oral malignant melanoma. J Vet Diagn Invest. 22: 438-41. 8. Hunter, M.J. et al. (2011) Gene therapy of canine leukocyte adhesion deficiency using lentiviral vectors with human CD11b and CD18 promoters driving canine CD18 expression. Mol Ther. 19: 113-21. 9. Giantin, M. et al. (2013) Evaluation of tyrosine-kinase receptor c-KIT (c-KIT) mutations, mRNA and protein expression in canine leukemia: might c-KIT represent a therapeutic target? Vet Immunol Immunopathol. 152: 325-32. 10. Trichler, S.A. et al. (2013) Ultra-pure platelet isolation from canine whole blood. BMC Vet Res. 9: 144. 11. Aricò, A. et al. (2013) The role of vascular endothelial growth factor and matrix metalloproteinases in canine lymphoma: <i>in vivo</i> and <i>in vitro</i> study. BMC Vet Res. 9: 94. 12. Michael, H.T. et al. (2013) Isolation and characterization of canine natural killer cells. Vet Immunol Immunopathol. 155 (3): 211-7.

13. Aresu, L. *et al.* (2014) VEGF and MMP-9: biomarkers for canine lymphoma. [Vet Comp Oncol. 12: 29-36.](#)
14. 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.](#)
15. Zeira, O. *et al.* (2015) Adult autologous mesenchymal stem cells for the treatment of suspected non-infectious inflammatory diseases of the canine central nervous system: safety, feasibility and preliminary clinical findings. [J Neuroinflammation. 12: 181.](#)
16. Salinas, L.T. *et al.* (2015) Mesenchymal stem cells do not exert direct beneficial effects on CNS remyelination in the absence of the peripheral immune system. [Brain Behav Immun. 50: 155-65.](#)
17. Muir, P. *et al.* (2016) Autologous Bone Marrow-Derived Mesenchymal Stem Cells Modulate Molecular Markers of Inflammation in Dogs with Cruciate Ligament Rupture. [PLoS One. 11 \(8\): e0159095.](#)
18. 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.](#)
19. 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.](#)
20. Nishimura, T. *et al.* (2017) Feeder-independent canine induced pluripotent stem cells maintained under serum-free conditions. [Mol Reprod Dev. 84 \(4\): 329-39.](#)
21. Bearden, R.N. *et al.* (2017) *In-vitro* characterization of canine multipotent stromal cells isolated from synovium, bone marrow, and adipose tissue: a donor-matched comparative study. [Stem Cell Res Ther. 8 \(1\): 218.](#)
22. Hansmann, F. *et al.* (2018) Beneficial and detrimental impact of transplanted canine adipose-derived stem cells in a virus-induced demyelinating mouse model. [Vet Immunol Immunopathol. 202: 130-40.](#)
23. Reineking, W. *et al.* (2018) Canine primary jejunal and colonic epithelial cells predominantly express TLR5 and TLR9 but do not change TLR expression pattern after stimulation with certain Toll-like receptor ligands. [Vet Immunol Immunopathol. 206: 16-24.](#)
24. 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.](#)
25. Crain, S.K. *et al.* (2019) Extracellular Vesicles from Wharton's Jelly Mesenchymal Stem Cells Suppress CD4 Expressing T Cells Through Transforming Growth Factor Beta and Adenosine Signaling in a Canine Model. [Stem Cells Dev. 28 \(3\): 212-226.](#)
26. 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.](#)
27. 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.](#)
28. 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.](#)
29. Wi, H. *et al.* (2021) Immunosuppression-enhancing effect of the administration of allogeneic canine adipose-derived mesenchymal stem cells (cA-MSCs) compared with autologous cA-MSCs *in vitro*. [J Vet Sci. 22 \(5\): e63.](#)
30. Grudzien, M. *et al.* (2021) A newly established canine NK-type cell line and its

- cytotoxic properties. [Vet Comp Oncol. 19 \(3\): 567-577.](#)
31. Stein, L. *et al.* (2021) Immunophenotypic Characterization of Canine Nodal T-Zone Lymphoma. [Vet Pathol. 58 \(2\): 288-92.](#)
32. Grandi, F. *et al.* (2022) Immunophenotypic and molecular profile of cancer stem-cell markers in ex vivo canine transmissible venereal tumour (CTVT). [Vet Med Sci. 8 \(6\): 2297-306.](#)
33. 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.](#)
34. 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.](#)
35. Kim, J.H. *et al.* (2024) Hemangiosarcoma Cells Promote Conserved Host-Derived Hematopoietic Expansion. [Cancer Res Commun. 16 May \[Epub ahead of print\].](#)
36. Benavides, F.P. *et al.* (2021) Intrathecal Transplantation of Autologous and Allogeneic Bone Marrow-Derived Mesenchymal Stem Cells in Dogs. [Cell Transplant. 30: 9636897211034464.](#)
37. Stokol, T. *et al.* (2024) Flow cytometric-based detection of CD80 is a useful diagnostic marker of acute myeloid leukemia in dogs. [Front Vet Sci. 11: 1405297.](#)
38. 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.](#)
39. Sulce, M. *et al.* (2018) Utility of flow cytometry in canine primary cutaneous and matched nodal mast cell tumor. [Vet J. 242: 15-23.](#)
40. Kim, M.C. *et al.* (2025) High-resolution single-cell RNA sequencing using canFam4 reveals novel immune subsets and checkpoint programs in healthy dogs. [Front Immunol. 16: 1680437.](#)

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

Material Safety Datasheet documentation #10041 available at:

Information <https://www.bio-rad-antibodies.com/SDS/MCA1042A488>

Regulatory For research purposes only

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
'M407937:221010'

Printed on 16 Mar 2026

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