

Datasheet: MCA1037GA

Description:	RAT ANTI DOG CD5
Specificity:	CD5
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	YKIX322.3
Isotype:	IgG2a
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			▪	

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 - liquid
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)
Carrier Free	Yes

Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Concanavalin A activated canine peripheral blood cells
Fusion Partners	Spleen cells from an immunised DA rat were fused with cells of the rat Y3/Ag1.2.3 myeloma cell line
Specificity	<p>Rat anti Dog CD5 antibody, clone YKIX322.3 recognizes canine CD5, a 67 kDa cell surface type 1 transmembrane glycoprotein also known as lymphocyte antigen T1, Ly-1 or Leu-1. CD5 is expressed on the surface of T-cells and thymocytes, CD5 is also expressed by NK cells at low levels (Huang et al. 2008). Rat anti dog CD5, clone YKIX322.3 was clustered as canine CD5 in the First Canine Leucocyte Antigen Workshop (Cobbold et al. 1994).</p> <p>In a study of 73 cases of canine chronic lymphocytic leukemia (CLL) CD5 expression was absent on all cases of B-cell CLL as defined by CD21 expression and lack of CD3 or other T cell antigen expression (Vernau and Moore 1999). Rat anti dog CD5 serves as a useful marker for the discrimination of canine leukemias of differing origins (Deravi et al. 2017).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells in 100ul.
References	<ol style="list-style-type: none"> 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. Hewicker-Trautwein, M. et al. (1999) Immunocytochemical demonstration of lymphocyte subsets and MHC class II antigen expression in synovial membranes from dogs with rheumatoid arthritis and degenerative joint disease. Vet Immunol Immunopathol. 67 (4): 341-57. Huang, Y.C. (2008) CD5-low expression lymphocytes in canine peripheral blood show characteristics of natural killer cells. J Leukoc Biol. 84: 1501-10. Araújo, M.S. et al. (2011) Immunological changes in canine peripheral blood leukocytes triggered by immunization with first or second generation vaccines against canine visceral leishmaniasis. Vet Immunol Immunopathol. 141: 64-75. Burnett, R.C. et al. (2003) Diagnosis of canine lymphoid neoplasia using clonal rearrangements of antigen receptor genes. Vet Pathol. 40: 32-41. Fosmire, S.P. et al. (2007) Inactivation of the p16 cyclin-dependent kinase inhibitor in high-grade canine non-Hodgkin's T-cell lymphoma. Vet Pathol. 44: 467-78. Guarga, J.L. et al. (2002) Evaluation of a specific immunochemotherapy for the treatment of canine visceral leishmaniasis. Vet Immunol Immunopathol. 88: 13-20. Vernau, W. Moore, P.F. et al. (1999) An immunophenotypic study of canine leukemias and preliminary assessment of clonality by polymerase chain reaction. Vet Immunol Immunopathol. 69: 145-64. Lamerato-kozicki, A.R. et al. (2006) Canine hemangiosarcoma originates from hematopoietic precursors with potential for endothelial differentiation. Exp Hematol. 34 (7): 870-8. Rütgen BC et al. (2012) Authentication of primordial characteristics of the CLBL-1 cell line prove the integrity of a canine B-cell lymphoma in a murine in vivo model. PLoS One.

[7 \(6\): e40078.](#)

11. Aresu, L. *et al.* (2014) VEGF and MMP-9: biomarkers for canine lymphoma. [Vet Comp Oncol. 12: 29-36.](#)
12. Moreira, M.L. *et al.* (2016) Vaccination against canine leishmaniosis increases the phagocytic activity, nitric oxide production and expression of cell activation/migration molecules in neutrophils and monocytes. [Vet Parasitol. 220: 33-45.](#)
13. 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.](#)
14. Michael, H.T. *et al.* (2013) Isolation and characterization of canine natural killer cells. [Vet Immunol Immunopathol. 155 \(3\): 211-7.](#)
15. Karayannopoulou, M. *et al.* (2017) Evaluation of blood T-lymphocyte subpopulations involved in host cellular immunity in dogs with mammary cancer. [Vet Immunol Immunopathol. 186: 45-50.](#)
16. 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.](#)
17. Gibbons, N. *et al.* (2017) Phenotypic heterogeneity of peripheral monocytes in healthy dogs. [Vet Immunol Immunopathol. 190: 26-30.](#)
18. Deravi, N. *et al.* (2017) Specific immunotypes of canine T cell lymphoma are associated with different outcomes. [Vet Immunol Immunopathol. 191: 5-13.](#)
19. GomesMde, O. *et al.* (2011) Old beagle dogs have lower faecal concentrations of some fermentation products and lower peripheral lymphocyte counts than young adult beagles. [Br J Nutr. 106 Suppl 1: S187-90.](#)
20. MariaA, P.J. *et al.* (2017) The effect of age and carbohydrate and protein sources on digestibility, fecal microbiota, fermentation products, fecal IgA, and immunological blood parameters in dogs. [J Anim Sci. 95 \(6\): 2452-66.](#)
21. Stokol, T. *et al.* (2015) Alkaline phosphatase is a useful cytochemical marker for the diagnosis of acute myelomonocytic and monocytic leukemia in the dog. [Vet Clin Pathol. 44 \(1\): 79-93.](#)
22. 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.](#)
23. Lin, C.S. *et al.* (2018) Activating natural killer (NK) cytotoxicity of canine CD5⁺CD21⁻ cells requires low surface CD5 density NK cells. [Iran J Vet Res. 19 \(2\): 87-95.](#)
24. 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.](#)
25. 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.](#)
26. 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 \[Epub ahead of print\].](#)
27. Graves, S.S. *et al.* (2019) Development and characterization of a canine-specific anti-CD94 (KLRD-1) monoclonal antibody. [Vet Immunol Immunopathol. 211: 10-8.](#)
28. Ito, D. *et al.* (2015) A double blinded, placebo-controlled pilot study to examine reduction of CD34⁺/CD117⁺/CD133⁺ lymphoma progenitor cells and duration of remission induced by neoadjuvant valspodar in dogs with large B-cell lymphoma.

[F1000Res. 4: 42.](#)

29. 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.](#)

30. 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.](#)

31. 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.](#)

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: 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Rat IgG (STAR69...)	FITC
Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR16...)	DyLight®800
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight®650 , DyLight®800
Goat Anti Rat IgG (STAR72...)	HRP
Rabbit Anti Rat IgG (STAR21...)	HRP
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (STAR131...)	Alk. Phos. , Biotin

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](https://www.bio-rad-antibodies.com/datasheets)

'M382457:210513'

Printed on 12 Oct 2021