

Datasheet: MCA1780GA

BATCH NUMBER 164041

Description:	MOUSE ANTI DOG CD18
Specificity:	CD18
Other names:	INTEGRIN BETA 2 CHAIN
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	CA1.4E9
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	▪			1/25 - 1/200
Immunohistology - Frozen (1)	▪			
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.

(1)The epitope recognised by this antibody is reported to be sensitive to formaldehyde fixation and tissue processing. Bio-Rad recommends the use of acetone fixation for frozen sections.

Target Species	Dog
Species Cross Reactivity	<p>Reacts with: Horse, Pig, Human, Bovine, Cat, Mink, Hooded Seal</p> <p>Based on sequence similarity, is expected to react with:Mustelid</p> <p>N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or</p>

personal communications from the originators. Please refer to references indicated for further information.

Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein G from ascites
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% sodium azide (NaN ₃)
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Specificity	Mouse anti Dog CD18 antibody, clone CA1.4E9 recognizes the canine CD18 cell surface antigen, also known as the b2 integrin.

The tissue and cellular distribution of CD18 in canine tissue closely follows that observed for humans ([Moore et al. 1990](#)) CD18 is expressed by virtually all leucocytes, but more strongly upon monocytes and granulocytes than on lymphocytes. The cross reactivity patterns of Mouse anti Canine CD18, clone CA1.4E9 further indicate that the antibody clone recognizes an epitope common to a number of mammalian species.

Immunoprecipitation experiments using detergent lysates of iodinated peripheral blood leukocytes indicate that clone Ca1.4E9 immunoprecipitates the common 95 kDa beta 2 integrin chain (CD18) along with the non-covalently associated alpha chains at 180 kDa (CD11a), 165 kDa (CD11b) and 150 kDa (CD11c) ([Moore et al. 1990](#)). Of note is the lack of precipitation of the integrin alpha D chain (CD11d), this is likely due to the almost complete absence of CD11d expression on peripheral blood lymphocytes, in contrast to expression in the splenic red pulp ([Fry et al. 2003](#)).

High CD18 expression is a common feature of lymphoma and hyperplasia in dogs ([Caniatti et al. 1996](#))

Flow Cytometry	Use 10µl of the suggested working dilution to label 10 ⁶ cells or 100µl whole blood
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References	<ol style="list-style-type: none">1. Danilenko, D.M. <i>et al.</i> (1992) Canine leukocyte cell adhesion molecules (leuCAMs): characterization of the CD11/CD18 family. Tissue Antigens 40: 13-21.2. Brodersen, R. <i>et al.</i> (1998) Analysis of the immunological cross reactivities of 213 well characterized monoclonal antibodies with specificities against various leucocyte surface antigens of human and 11 animal species. Vet Immunol Immunopathol. 64 (1): 1-13.3. Leite, F. <i>et al.</i> (2000) Recombinant bovine interleukin-1beta amplifies the effects of partially purified <i>Pasteurella haemolytica</i> leukotoxin on bovine neutrophils in a beta(2)-integrin-dependent manner. Infect Immun. 68: 5581-6.4. McDonough, S.P. and Moore, P.F. (2000) Clinical, hematologic, and immunophenotypic characterization of canine large granular lymphocytosis Vet Pathol. 37: 637-46.5. Comazzi, S. <i>et al.</i> (2006) Flow cytometric patterns in blood from dogs with
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non-neoplastic and neoplastic hematologic diseases using double labeling for CD18 and CD45. [Vet Clin Pathol. 35 \(1\): 47-54.](#)

6. Bauer, T.R. Jr. *et al.* (2006) Correction of the disease phenotype in canine leukocyte adhesion deficiency using ex vivo hematopoietic stem cell gene therapy. [Blood. 108: 3313-20.](#)

7. Comazzi, S. *et al.* (2006) Flow cytometric expression of common antigens CD18/CD45 in blood from dogs with lymphoid malignancies: a semi-quantitative study. [Vet Immunol Immunopathol. 112 \(3-4\): 243-52.](#)

8. Lecchi, C. *et al.* (2008) Bovine alpha-1 acid glycoprotein can reduce the chemotaxis of bovine monocytes and modulate CD18 expression. [Vet Res. 39: 50.](#)

9. Mortarino, M. *et al.* (2010) Identification of suitable endogenous controls and differentially expressed microRNAs in canine fresh-frozen and FFPE lymphoma samples. [Leuk Res. 34: 1070-7.](#)

10. Donahue, R.E. *et al.* (2011) Leukocyte integrin activation mediates transient neutropenia after G-CSF administration. [Blood. 118: 4209-14.](#)

11. Larsen, A.K. *et al.* (2013) Entry and Elimination of Marine Mammal *Brucella* spp. by Hooded Seal (*Cystophora cristata*) Alveolar Macrophages *In Vitro*. [PLoS One. 8: e70186.](#)

12. Moreira, M.L. *et al.* (2016) Vaccination against canine leishmaniasis increases the phagocytic activity, nitric oxide production and expression of cell activation/migration molecules in neutrophils and monocytes. [Vet Parasitol. 220: 33-45.](#)

13. Bauer, T.R. Jr *et al.* (2017) Feline leukocyte adhesion (CD18) deficiency caused by a deletion in the integrin β_2 (ITGB2) gene. [Vet Clin Pathol. 46 \(3\): 391-400.](#)

14. Martini, V. *et al.* (2016) Canine small clear cell/T-zone lymphoma: clinical presentation and outcome in a retrospective case series. [Vet Comp Oncol. 14 Suppl 1: 117-26.](#)

15. Brodzki, P. *et al.* (2020) Selected leukocyte subpopulations in peripheral blood and uterine washings in cows before and after intrauterine administration of cefapirin and methisoprinol. [Anim Sci J. 91 \(1\): e13306.](#)

16. Rütgen, B.C. *et al.* (2022) Composition of lymphocyte subpopulations in normal and mildly reactive peripheral lymph nodes in cats. [J Feline Med Surg. 24 \(2\): 77-90.](#)

17. Rütgen, B.C. *et al.* (2024) Flowcytometric data of intermediate-large cell gastrointestinal lymphoma presenting a gross mass in 32 cats – “let them glow in the flow” [Frontiers in Veterinary Science. 28 May \[Epub ahead of print\].](#)

18. Brodzki, P. *et al.* (2024) The influence of probiotic administration on selected leukocyte subpopulations and the serum amyloid A concentration in the peripheral blood of dairy cows during different lactation periods [Journal of Veterinary Research. 09 Oct \[Epub ahead of print\].](#)

Further Reading

1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. [Vet Res. 39: 54.](#)

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/MCA1780GA 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 (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®550 , DyLight®650 , DyLight®680 , DyLight®800 , FITC , HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP

Recommended Negative Controls

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

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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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)
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