

Datasheet: MCA1780GA

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| 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.

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| 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 personal communications from the originators. Please refer to references indicated for</p> |

further information.

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| Product Form | Purified IgG - liquid |
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| Preparation | Purified IgG prepared by affinity chromatography on Protein G from ascites |
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| Buffer Solution | Phosphate buffered saline |
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| Preservative Stabilisers | 0.09% sodium azide (NaN ₃) |
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| Approx. Protein Concentrations | IgG concentration 1.0 mg/ml |
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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](#))

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| Flow Cytometry | Use 10µl of the suggested working dilution to label 10 ⁶ cells or 100µl whole blood |
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References

1. Danilenko, D.M. *et al.* (1992) Canine leukocyte cell adhesion molecules (leuCAMS): characterization of the CD11/CD18 family. [Tissue Antigens 40: 13-21.](#)
2. Brodersen, R. *et al.* (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. *et al.* (2000) Recombinant bovine interleukin-1beta amplifies the effects of partially purified *Pasteurella haemolytica* leukotoxin on bovine neutrophils in a beta(2)-integrin-dependent manner. [Infect Immun. 68: 5581-6.](#)
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- 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 \[Epub ahead of print\].](#)

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>
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Related Products

Recommended Secondary Antibodies

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| 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 |
| Goat Anti Mouse IgG (STAR77...) | HRP |
| Rabbit Anti Mouse IgG (STAR13...) | HRP |
| Rabbit Anti Mouse IgG (STAR9...) | FITC |
| Goat Anti Mouse IgG (Fc) (STAR120...) | FITC , HRP |

Recommended Negative Controls

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

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Worldwide

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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

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