

## Datasheet: MCA1780GA

<b>Description:</b>	MOUSE ANTI DOG CD18
<b>Specificity:</b>	CD18
<b>Other names:</b>	INTEGRIN BETA 2 CHAIN
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	CA1.4E9
<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 - 1/200
Immunohistology - Frozen (1)	▪			
Immunohistology - Paraffin		▪		
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	
Immunofluorescence	▪			

Where this antibody 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 antibody 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.**

<b>Target Species</b>	Dog
<b>Species Cross Reactivity</b>	Reacts with: Horse, Pig, Human, Bovine, Cat, Mink, Hooded Seal Based on sequence similarity, is expected to react with: Mustelid <b>N.B.</b> Antibody reactivity and working conditions may vary between species.
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )

**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  $\beta 2$  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 10ul of the suggested working dilution to label  $10^6$  cells or 100ul whole blood

**References**

1. Moore, P.F. *et al.* (1990) Canine leukocyte integrins: characterization of a CD18 homologue. [Tissue Antigens. 36 \(5\): 211-20.](#)
2. Danilenko, D.M. *et al.* (1992) Canine leukocyte cell adhesion molecules (leuCAMs): characterization of the CD11/CD18 family. [Tissue Antigens 40: 13-21.](#)
3. 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.](#)
4. 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.](#)
5. 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.](#)
6. Leite, F. *et al.* (2000) Recombinant bovine interleukin-1 $\beta$  amplifies the effects of partially purified *Pasteurella haemolytica* leukotoxin on bovine neutrophils in a  $\beta(2)$ -integrin-dependent manner. [Infect Immun. 68: 5581-6.](#)
7. McDonough, S.P. and Moore, P.F. (2000) Clinical, hematologic, and immunophenotypic characterization of canine large granular lymphocytosis [Vet Pathol. 37: 637-46.](#)
8. 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.](#)
9. Donahue, R.E. *et al.* (2011) Leukocyte integrin activation mediates transient neutropenia after G-CSF administration. [Blood. 118: 4209-14.](#)
10. 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.](#)
11. 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.](#)
12. Yeh, C.L. *et al.* (2006) Dietary arginine enhances adhesion molecule and T helper 2 cytokine expression in mice with gut-derived sepsis. [Shock. 25 \(2\): 155-60.](#)
13. 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 \(1\):](#)

[47-54.](#)

14. 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 [Veterinary Parasitology. 15 Feb \[Epub ahead of print\]](#)

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<b>Further Reading</b>	1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. <a href="#">Vet Res. 39: 54.</a>
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<b>Storage</b>	Store at +4°C or at -20°C if preferred.  This product should be stored undiluted.  Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
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<b>Shelf Life</b>	18 months from date of despatch.
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: 10040: <a href="https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf">https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf</a>
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Rabbit Anti Mouse IgG (STAR8...)	<a href="#">DyLight@800</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (H/L) (STAR117...)	<a href="#">Alk. Phos.</a> , <a href="#">DyLight@488</a> , <a href="#">DyLight@549</a> , <a href="#">DyLight@649</a> , <a href="#">DyLight@680</a> , <a href="#">DyLight@800</a> , <a href="#">FITC</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR9...)	<a href="#">FITC</a>
Human Anti Mouse IgG1 (HCA036...)	<a href="#">HRP</a>

### Recommended Negative Controls

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

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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