

Datasheet: MCA1780A647

Description:	MOUSE ANTI DOG CD18:Alexa Fluor®647
Specificity:	CD18
Other names:	INTEGRIN BETA 2 CHAIN
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	CA1.4E9
Isotype:	IgG1
Quantity:	100 TESTS/1ml

Product Details

RRID AB_2020973

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 - 1/10

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

Species Cross Reactivity Reacts with: Horse, Pig, Human, Bovine, Cat, Mink, Hooded Seal
Based on sequence similarity, is expected to react with:Mustelid
N.B. Antibody reactivity and working conditions may vary between species.

Product Form Purified IgG conjugated to Alexa Fluor® 647 - liquid

Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®647	650	665

Preparation Purified IgG prepared by affinity chromatography on Protein G

Buffer Solution Phosphate buffered saline

Preservative Stabilisers 0.09% Sodium Azide (NaN₃)
1% Bovine Serum Albumin

Approx. Protein Concentrations IgG concentration 0.05 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 α 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 α 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 α -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 β 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 leishmaniasis increases the phagocytic activity, nitric oxide production and expression of cell activation/migration molecules in neutrophils

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

Storage Store at +4°C or at -20°C if preferred.
Storage in frost-free freezers is not recommended.
This product should be stored undiluted. This product is photosensitive and should be protected from light.
Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life 18 months from date of despatch.

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Health And Safety Information Material Safety Datasheet documentation #10041 available at: 10041: <https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf>

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA928A647\)](#)

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