

Datasheet: MCA503A647

BATCH NUMBER 171856

Description:	RAT ANTI HUMAN CD18:Alexa Fluor® 647
Specificity:	CD18
Other names:	INTEGRIN BETA 2 CHAIN
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	YFC118.3
Isotype:	IgG2b
Quantity:	100 TESTS/1ml

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	▪			Neat

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.

Target Species

Human

Species Cross Reactivity

Reacts with: Dog, Guinea Pig

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 further information.

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 from tissue culture supernatant

Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide 1% Bovine Serum Albumin
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml
Immunogen	Human neutrophils
External Database Links	UniProt: P05107 Related reagents Entrez Gene: 3689 ITGB2 Related reagents
Synonyms	CD18, MFI7
RRID	AB_324799
Fusion Partners	Spleen cells from immunized LOU rats were fused with cells of the rat Y3/Ag.1.2.3 myeloma cell line
Specificity	Rat anti Human CD18 antibody, clone YFC118.3 was clustered at the Fourth International Workshop on Leucocyte Differentiation Antigens (code number N221) as recognizing the CD18 antigen. CD18 is an integral membrane glycoprotein of ~95 kDa, also known as the beta 2 chain, of the LFA-1 complex. CD18 links non-covalently to either CD11a, b or c molecules forming the heteromeric LFA-1 complex. CD18 acts as the receptor for ICAM-1 and is important for cell adhesion and cell-cell interactions (Reina & Espel 2017). Rat anti Human CD18 antibody, clone YFC118.3 demonstrates strong reactivity with leucocytes and is not reactive with platelets.
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	1. Bindon, C.I. <i>et al.</i> (1988) Importance of antigen specificity for complement-mediated lysis by monoclonal antibodies. Eur J Immunol. 18 (10): 1507-14. 2. Chabanne, L. <i>et al.</i> (1994) Screening of 78 monoclonal antibodies directed against human leukocyte antigens for cross-reactivity with surface markers on canine lymphocytes. Tissue Antigens. 43 (3): 202-5. 3. Mizuno, T. <i>et al.</i> (1997) cDNA cloning and chromosomal localization of the human telencephalin and its distinctive interaction with lymphocyte function-associated antigen-1. J Biol Chem. 272: 1156-63. 4. Kupatt, C. <i>et al.</i> (1999) Tumor necrosis factor-alpha contributes to ischemia- and reperfusion-induced endothelial activation in isolated hearts. Circ Res. 84: 392-400.

5. Salvatierra, A. *et al.* (2001) Antithrombin III prevents early pulmonary dysfunction after lung transplantation in the dog. [Circulation. 104: 2975-80.](#)
6. Spring, F.A. *et al.* (2001) Intercellular adhesion molecule-4 binds alpha(4)beta(1) and alpha(V)-family integrins through novel integrin-binding mechanisms. [Blood. 98: 458-66.](#)
7. Garland, R.J. *et al.* (2002) Human CD8+ CTL recognition and in vitro lysis of herpes simplex virus-infected cells by a non-MHC restricted mechanism. [Scand J Immunol. 55: 61-9.](#)
8. Gonçalves, R. *et al.* (2005) A sensitive flow cytometric methodology for studying the binding of *L. chagasi* to canine peritoneal macrophages. [BMC Infect Dis. 5:39.](#)
9. Alex, J. *et al.* (2005) Pretreatment with hyperbaric oxygen and its effect on neuropsychometric dysfunction and systemic inflammatory response after cardiopulmonary bypass: a prospective randomized double-blind trial. [J Thorac Cardiovasc Surg. 130: 1623-30.](#)
10. Lana, S. *et al.* (2006) Diagnosis of mediastinal masses in dogs by flow cytometry. [J Vet Intern Med. 20: 1161-5.](#)
11. Grote, K. *et al.* (2007) The angiogenic factor CCN1 promotes adhesion and migration of circulating CD34+ progenitor cells: potential role in angiogenesis and endothelial regeneration. [Blood. 110: 877-85.](#)
12. Sampaio, W.M. *et al.* (2007) *In vitro* binding and survival assays of Leishmania parasites to peripheral blood monocytes and monocyte-derived macrophages isolated from dogs naturally and experimentally infected with *Leishmania chagasi*. [BMC Vet Res. 3:11.](#)
13. Crosby, H.A. *et al.* (2009) Adhesion of human haematopoietic (CD34+) stem cells to human liver compartments is integrin and CD44 dependent and modulated by CXCR3 and CXCR4. [J Hepatol. 51: 734-49.](#)
14. Waché, Y.J. *et al.* (2009) The mycotoxin deoxynivalenol inhibits the cell surface expression of activation markers in human macrophages. [Toxicology. 262: 239-44.](#)
15. Holst, B.S. *et al.* (2010) Expression of four canine leukocyte adhesion factors in fresh and stored whole blood samples evaluated using a no-lyse, no-wash method. [Vet Immunol Immunopathol. 139: 271-6.](#)
16. 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.](#)
17. Canalli, A.A. *et al.* (2011) Participation of Mac-1, LFA-1 and VLA-4 integrins in the in vitro adhesion of sickle cell disease neutrophils to endothelial layers, and reversal of adhesion by simvastatin. [Haematologica. 96: 526-33.](#)
18. Zimmerman, K.L. *et al.* (2013) Leukocyte adhesion deficiency type I in a mixed-breed dog. [J Vet Diagn Invest. 25: 291-6.](#)
19. Levy, O. *et al.* (2015) Apolipoprotein E promotes subretinal mononuclear phagocyte survival and chronic inflammation in age-related macular degeneration. [EMBO Mol Med. pii: e201404524.](#)
20. Sutcliffe, J.E.S. *et al.* (2017) Changes in the extracellular matrix surrounding human chronic wounds revealed by 2-photon imaging. [Int Wound J. Jul 20 \[Epub ahead of print\].](#)
21. Cremer, S.E. *et al.* (2019) Proteomic profiling of the thrombin-activated canine platelet secretome (CAPS). [PLoS One. 14 \(11\): e0224891.](#)
22. 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.](#)

23. Sheng, R. *et al.* (2023) Prognostic significance of CD25 expression in dogs with a noninvasive diagnosis of B-cell lymphoma treated with CHOP chemotherapy. [Vet Comp Oncol. 21 \(1\): 28-35.](#)

24. Stokol, T. *et al.* (2024) Flow cytometric-based detection of CD80 is a useful diagnostic marker of acute myeloid leukemia in dogs. [Front Vet Sci. 11: 1405297.](#)

Further Reading	1. Marconato, L. (2013) The dog as a possible animal model for human non-Hodgkin lymphoma: a review. Hematol Oncol. 31: 1-9.
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. This product is photosensitive and should be protected from light.
Guarantee	12 months from date of despatch
Acknowledgements	The isolation and characterisation of this cell line was carried out with help of funds supplied by the Medical Research Council, UK. This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA503A647
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

[RAT IgG2b NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA6006A647\)](#)

Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)
[HUMAN SEROBLOCK \(BUF070B\)](#)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M437439:250313'

Printed on 02 Sep 2026

© 2026 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)