

Datasheet: MCA2213A647

BATCH NUMBER 173902

Description:	MOUSE ANTI SHEEP CD4:Alexa Fluor® 647
Specificity:	CD4
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	44.38
Isotype:	IgG2a
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 - 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	Sheep								
Species Cross Reactivity	Reacts with: Goat 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	<table><tr><th>Fluorophore</th><th>Excitation Max (nm)</th><th>Emission Max (nm)</th></tr><tr><td>Alexa Fluor®647</td><td>650</td><td>665</td></tr></table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	Alexa Fluor®647	650	665		
Fluorophore	Excitation Max (nm)	Emission Max (nm)							
Alexa Fluor®647	650	665							
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant								
Buffer Solution	Phosphate buffered saline								

Preservative Stabilisers	0.09% sodium azide (NaN ₃) 1% bovine serum albumin
Approx. Protein Concentrations	IgG concentration 0.05mg/ml
Immunogen	Fetal thymocytes.
External Database Links	UniProt: P05542 Related reagents
RRID	AB_2077625
Fusion Partners	Spleen cells from immunized BALB/c mice were fused with cells of the mouse P3-NS1/1-Ag-4-1 myeloma cell line.
Specificity	Mouse anti Sheep CD4 antibody, clone 44.38 recognizes the ovine CD4 cell surface glycoprotein, expressed by a subset of mature T lymphocytes. Mouse anti Sheep CD4 antibody, clone 44.38 immunoprecipitates a protein of ~56 kDa under reducing conditions.
Flow Cytometry	Use 10µl of the suggested working dilution to label 10 ⁶ cells in 100µl
References	1. Mackay, C.R. <i>et al.</i> (1986) Three distinct subpopulations of sheep T lymphocytes. Eur J Immunol. 16 (1): 19-25. 2. Mackay, C.R. <i>et al.</i> (1986) Thymocyte subpopulations during early fetal development in sheep. J Immunol. 136 (5): 1592-9. 3. Mackay, C.R. <i>et al.</i> (1987) A monoclonal antibody to the p220 component of sheep LCA identifies B cells and a unique lymphocyte subset. Cell Immunol. 110 (1): 46-55. 4. Debes, G.F. <i>et al.</i> (2005) Chemokine receptor CCR7 required for T lymphocyte exit from peripheral tissues. Nat Immunol. 6: 889-94. 5. Foulon, E. <i>et al.</i> (2008) Two populations of ovine bone marrow-derived dendritic cells can be generated with recombinant GM-CSF and separated on CD11b expression. J Immunol Methods. 339: 1-10. 6. Umeshappa, C.S. <i>et al.</i> (2010) Cell-mediated immune response and cross-protective efficacy of binary ethylenimine-inactivated bluetongue virus serotype-1 vaccine in sheep. Vaccine. 28: 2522-31. 7. Gillan, S. <i>et al.</i> (2010) Identification of immune parameters to differentiate disease states among sheep infected with Mycobacterium avium subsp. paratuberculosis. Clin Vaccine Immunol. 17: 108-17. 8. Breugelmans, S. <i>et al.</i> (2010) Immunoassay of lymphocyte subsets in ovine palatine tonsils. Acta Histochem. 113: 416-22. 9. Brown, M.N. <i>et al.</i> (2010) Chemoattractant receptors and lymphocyte egress from extralymphoid tissue: changing requirements during the course of inflammation. J Immunol. 185: 4873-82. 10. Lacroux, C. <i>et al.</i> (2011) Prionemia and leuco-platelet associated infectivity in sheep TSE models. J Virol. 86: 2056-66. 11. Connelley, T. <i>et al.</i> (2011) NKp46 defines ovine cells that have characteristics

- corresponding to NK cells. [Vet Res. 42: 37.](#)
12. Summers, C. *et al.* (2012) The distribution of immune cells in the lungs of classical and atypical ovine pulmonary adenocarcinoma. [Vet Immunol Immunopathol. 146: 1-7.](#)
13. Lybeck, K.R. *et al.* (2012) Intestinal Strictures, Fibrous Adhesions and High Local Interleukin-10 Levels in Goats Infected Naturally with *Mycobacterium avium* subsp. *paratuberculosis*. [J Comp Pathol. 148: 157-72.](#)
14. Silva, A.P. *et al.* (2015) Encapsulated *Brucella ovis* Lacking a Putative ATP-Binding Cassette Transporter (Δ abcBA) Protects against Wild Type *Brucella ovis* in Rams. [PLoS One. 10 \(8\): e0136865.](#)
15. Kalyanasundaram, A. *et al.* (2015) Comparative immunoprophylactic efficacy of *Haemonchus contortus* recombinant enolase (rHcENO) and Con A purified native glycoproteins in sheep. [Exp Parasitol. 154: 98-107.](#)
16. Gómez, D. *et al.* (2015) Effector T Cell Egress via Afferent Lymph Modulates Local Tissue Inflammation. [J Immunol. 195 \(8\): 3531-6.](#)
17. Goh, S. *et al.* (2016) Identification of *Theileria lestoquardi* Antigens Recognized by CD8+ T Cells. [PLoS One. 11 \(9\): e0162571.](#)
18. Wattegedera, S.R. *et al.* (2017) Enhancing the toolbox to study IL-17A in cattle and sheep. [Vet Res. 48 \(1\): 20.](#)
19. Greer, A.W. *et al.* (2018) Immune development and performance characteristics of Romney sheep selected for either resistance or resilience to gastrointestinal nematodes. [Vet Parasitol. 250: 60-7.](#)
20. Higgins, J.L. *et al.* (2018) Cell mediated immune response in goats after experimental challenge with the virulent *Brucella melitensis* strain 16M and the reduced virulence strain Rev. 1. [Vet Immunol Immunopathol. 202: 74-84.](#)
21. Pérez-caballero, R. *et al.* (2018) Comparative dynamics of peritoneal cell immunophenotypes in sheep during the early and late stages of the infection with *Fasciola hepatica* by flow cytometric analysis. [Parasit Vectors. 11 \(1\): 640.](#)
22. Ramos, A. *et al.* (2018) Melatonin enhances responsiveness to *Dichelobacter nodosus* vaccine in sheep and increases peripheral blood CD4 T lymphocytes and IgG-expressing B lymphocytes. [Vet Immunol Immunopathol. 206: 1-8.](#)
23. Curina, G. *et al.* (2018) Evaluation of immune responses in mice and sheep inoculated with a live attenuated *Brucella melitensis*. REV1 vaccine produced in bioreactor. [Vet Immunol Immunopathol. 198: 44-53.](#)
24. Baliu-piqué, M. *et al.* (2019) Age-related distribution and dynamics of T-cells in blood and lymphoid tissues of goats. [Dev Comp Immunol. 93: 1-10.](#)
25. Wooldridge, A.L. *et al.* (2019) Maternal allergic asthma during pregnancy alters fetal lung and immune development in sheep: potential mechanisms for programming asthma and allergy. [J Physiol. 597 \(16\): 4251-62.](#)
26. Schwarz, E.R. *et al.* (2020) Experimental Infection of Mid-Gestation Pregnant Female and Intact Male Sheep with Zika Virus. [Viruses. 12 \(3\): 291.](#)
27. Zhang, H. *et al.* (2020) Thiamine ameliorates inflammation of the ruminal epithelium of Saanen goats suffering from subacute ruminal acidosis. [J Dairy Sci. 103 \(2\): 1931-43.](#)
28. Ducournau, C. *et al.* (2020) Effective Nanoparticle-Based Nasal Vaccine Against Latent and Congenital Toxoplasmosis in Sheep. [Front Immunol. 11: 2183.](#)
29. Nashiruddullah, N. *et al.* (2021) Dermal Response to Experimental Orf virus (ORFV) Infection in Goats, Mice and Rabbit [Indian J Anim Res. 56 \(8\): B-4266 1003-9.](#)
30. Yang, J. *et al.* (2022) Baseline T-lymphocyte and cytokine indices in sheep peripheral

blood. [BMC Vet Res. 18 \(1\): 165.](#)

31. Yang, J. *et al.* (2023) Recombinant antigen P29 of *Echinococcus granulosus* induces Th1, Tc1, and Th17 cell immune responses in sheep. [Front Immunol. 14: 1243204.](#)

Further Reading	1. Lybeck, K. R. <i>et al.</i> (2009) Neutralization of interleukin-10 from CD14(+) monocytes enhances gamma interferon production in peripheral blood mononuclear cells from <i>Mycobacterium avium</i> subsp. paratuberculosis-infected goats. Clin. Vaccine. Immunol. 16: 1003-11.
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	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/MCA2213A647
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA929A647\)](#)

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](https://www.bio-rad-antibodies.com/datasheets)
'M437800:250319'

Printed on 21 Aug 2026