Datasheet: MCA2213A647

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

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. *et al.* (1986) Three distinct subpopulations of sheep T lymphocytes. Eur J Immunol. 16 (1): 19-25. 2. Mackay, C.R. *et al.* (1986) Thymocyte subpopulations during early fetal development in sheep. J Immunol. 136 (5): 1592-9. 3. Mackay, C.R. *et al.* (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. *et al.* (2005) Chemokine receptor CCR7 required for T lymphocyte exit from peripheral tissues. Nat Immunol. 6: 889-94. 5. Foulon, E. *et al.* (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. *et al.* (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. *et al.* (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. *et al.* (2010) Immunoassay of lymphocyte subsets in ovine palatine tonsils. Acta Histochem. 113: 416-22. 9. Brown, M.N. *et al.* (2010) Chemoattractant receptors and lymphocyte egress from extralymphoid tissue: changing requirements during the course of inflammation. J Immunol. 185: 4873-82. 10. Lacroux, C. *et al.* (2011) Prionemia and leuco-platelet associated infectivity in sheep TSE models. J Virol. 86: 2056-66. 11. Connelley, T. *et al.* (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 (ΔabcBA) 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 Orfvirus (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. *et al*. (2009) Neutralization of interleukin-10 from CD14(+) monocytes enhances gamma interferon production in peripheral blood mononuclear cells from *Mycobacterium avium* 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

Health And Safety Information

Material Safety Datasheet documentation #10041 available at:
https://www.bio-rad-antibodies.com/SDS/MCA2213A647
10041

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 (MCA929A647)

North & South America Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com
Worldwide Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com
Europe Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M437800:250319'

Printed on 23 May 2025