Datasheet: MCA2434A647

Description:	MOUSE ANTI BOVINE CD45RO:Alexa Fluor® 647
Specificity:	CD45RO
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	IL-A116
Isotype:	IgG3
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

Bovine

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	Ig concentration 0.05 mg/ml
Immunogen	Bovine peripheral blood monouclear cells.
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the X63.Ag8.653 myeloma cell line.
Specificity	**Mouse anti Bovine CD45RO, clone IL-A116** recognizes the bovine homologue of the human CD45RO cell surface antigen. CD45, also known as Leucocyte Common Antigen or LCA, occurs in a number of isoforms, clone IL-A116 is specific for the low molecular weight isoform termed CD45RO, the isoform associated with expression on memory T-cells. Bovine CD45RO is expressed by monocytes, granulocytes and subsets of thymocytes, CD4+ T cells and CD8+ T cells. $CD45RO^+$ $CD8^+$ T cells increase from approximately 5% in neonatal calves to approximately 35% in adult cattle over the age of 5 years (Hogg *et al.* 2011). Mouse anti Bovine CD45RO, clone IL-A116 immunoprecipitates a molecule of ~180 kDa (Bembridge *et al.* 1995), analogus to the molecular weight of human and mouse CD45RO. Mouse anti Bovine CD45RO, clone IL-A116 recognizes the CD45RO cell surface antigen by flow cytometry in both European cattle, *Bos taurus*, and in Zebu, *B.indicus* (Bembridge *et al.* 1995).
Flow Cytometry	Use 10ul of the suggested working dilution to label $1x10^6$ cells in 100ul
References	1. Howard, C.J. & Naessens, J. (1993) Summary of workshop findings for cattle (tables 1 and 2). Vet Immunol Immunopathol. 39 (1-3): 25-47. 2. Naessens, J. *et al.* (1993) Cross-reactivity of workshop antibodies with cells from domestic and wild ruminants. Vet Immunol Immunopathol. 39 (1-3): 283-90. 3. Bembridge, G.P. *et al.* (1993) Comparison of monoclonal antibodies with potential specificity for restricted isoforms of the leukocyte common antigen (CD45R). Vet Immunol Immunopathol. 39 (1-3): 129-36. 4. Bembridge, G.P. *et al.* (1995) CD45RO expression on bovine T cells: relation to biological function. Immunology. 86 (4): 537-44. 5. Mcinnes, E. *et al.* (1999) Phenotypic analysis of local cellular responses in calves infected with bovine respiratory syncytial virus. Immunology. 96 (3): 396-403. 6. Sopp, P. & Howard, C.J. (2001) IFN gamma and IL-4 production by CD4, CD8 and WC1 gamma delta TCR(+) T cells from cattle lymph nodes and blood. Vet Immunol Immunopathol. 81 (1-2): 85-96. 7. Hogg, A.E. *et al.* (2011) Characterization of age-related changes in bovine CD8+ T-cells. Vet Immunol Immunopathol. 140 (1-2): 47-54. 8. Whelan, A.O. *et al.* (2011) Development of an antibody to bovine IL-2 reveals multifunctional CD4 T(EM) cells in cattle naturally infected with bovine tuberculosis. PLoS One. 6 (12): e29194.

9. Schmidt, N. *et al.* (2018) Decreased STEC shedding by cattle following passive and active vaccination based on recombinant *Escherichia coli* Shiga toxoids. Vet Res. 49 (1): 28.
10. Arrieta-Villegas, C. *et al.* (2020) Immunogenicity and Protection against *Mycobacterium caprae* Challenge in Goats Vaccinated with BCG and Revaccinated after One Year. Vaccines (Basel). 8 (4): 751.
11. Wherry, T.L.T. *et al.* (2022) Effects of 1,25-Dihydroxyvitamin D_3 and 25-Hydroxyvitamin D_3 on PBMCs From Dairy Cattle Naturally Infected With *Mycobacterium avium* subsp. *paratuberculosis*. Front Vet Sci. 9: 830144.
12. Hidalgo-Ruiz, M. *et al.* (2022) **Babesia bovis** AMA-1, MSA-2c and RAP-1 contain conserved B and T-cell epitopes, which generate neutralizing antibodies and a long-lasting Th1 immune response in vaccinated cattle. Vaccine. S0264-410X(22)00049-4.
13. Seemann, L. *et al.* (2024) Dietary L-carnitine supplementation modifies blood parameters of mid-lactating dairy cows during standardized lipopolysaccharide-induced inflammation. Front Immunol. 15: 1390137.

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.
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 purchased 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/MCA2434A647 10041
Regulatory	For research purposes only

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