

Datasheet: MCA2434PE

BATCH NUMBER 170109

Description:	MOUSE ANTI BOVINE CD45RO:RPE
Specificity:	CD45RO
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	IL-A116
Isotype:	IgG3
Quantity:	100 TESTS

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 R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1.0 ml distilled water Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution.		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578

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 5% Sucrose
Immunogen	Bovine peripheral blood mononuclear 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](#)), analogous 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
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| References | <ol style="list-style-type: none"> Howard, C.J. & Naessens, J. (1993) Summary of workshop findings for cattle (tables 1 and 2). Vet Immunol Immunopathol. 39 (1-3): 25-47. Naessens, J. <i>et al.</i> (1993) Cross-reactivity of workshop antibodies with cells from domestic and wild ruminants. Vet Immunol Immunopathol. 39 (1-3): 283-90. Bembridge, G.P. <i>et al.</i> (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. Bembridge, G.P. <i>et al.</i> (1995) CD45RO expression on bovine T cells: relation to biological function. Immunology. 86 (4): 537-44. McInnes, E. <i>et al.</i> (1999) Phenotypic analysis of local cellular responses in calves infected with bovine respiratory syncytial virus. Immunology. 96 (3): 396-403. 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. Hogg, A.E. <i>et al.</i> (2011) Characterization of age-related changes in bovine CD8+ T-cells. Vet Immunol Immunopathol. 140 (1-2): 47-54. |
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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 D₃ and 25-Hydroxyvitamin D₃ 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

Prior to reconstitution store at +4°C.
 Following reconstitution store at +4°C.
 DO NOT FREEZE.
 This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee

12 months from date of despatch

Health And Safety Information

Material Safety Datasheet documentation #20487 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2434PE>

Regulatory

For research purposes only

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

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