

## Datasheet: MCA2434PE

**BATCH NUMBER INN1608**

<b>Description:</b>	MOUSE ANTI BOVINE CD45RO:RPE
<b>Specificity:</b>	CD45RO
<b>Format:</b>	RPE
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	IL-A116
<b>Isotype:</b>	IgG3
<b>Quantity:</b>	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](http://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

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**Buffer Solution** Phosphate buffered saline

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**Preservative** 0.09% Sodium Azide (NaN<sub>3</sub>)  
**Stabilisers** 1% Bovine Serum Albumin  
5% Sucrose

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**Immunogen** Bovine peripheral blood mononuclear cells.

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**Fusion Partners** Spleen cells from immunised BALB/c mice were fused with cells of the X63.Ag8.653 myeloma cell line.

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**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<sup>+</sup> T cells and CD8<sup>+</sup> T cells. CD45RO<sup>+</sup> CD8<sup>+</sup> 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](#)).

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**Flow Cytometry** Use 10ul of the suggested working dilution to label 1x10<sup>6</sup> cells in 100ul

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#### References

1. Bembridge, G.P. *et al.* (1995) CD45RO expression on bovine T cells: relation to biological function. [Immunology. 86 \(4\): 537-44.](#)
2. Hogg, A.E. *et al.* (2011) Characterization of age-related changes in bovine CD8<sup>+</sup> T-cells. [Vet Immunol Immunopathol. 140 \(1-2\): 47-54.](#)
3. 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.](#)
4. Howard, C.J. & Naessens, J. (1993) Summary of workshop findings for cattle (tables 1 and 2). [Vet Immunol Immunopathol. 39 \(1-3\): 25-47.](#)
5. 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.](#)
6. McInnes, E. *et al.* (1999) Phenotypic analysis of local cellular responses in calves infected with bovine respiratory syncytial virus. [Immunology. 96 \(3\): 396-403.](#)
7. 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.](#)

8. 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.](#)

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. 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.](#)

12. Wherry, T.L.T. *et al.* (2022) Effects of 1,25-Dihydroxyvitamin D<sub>3</sub> and 25-Hydroxyvitamin D<sub>3</sub> on PBMCs From Dairy Cattle Naturally Infected With *Mycobacterium avium* subsp. *paratuberculosis*. [Front Vet Sci. 9: 830144.](#)

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**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.

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**Guarantee**

12 months from date of despatch

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**Health And Safety Information**

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

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**Regulatory**

For research purposes only

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