

Datasheet: MCA2445PE

BATCH NUMBER 160617

Description:	MOUSE ANTI BOVINE MHC CLASS II MONOMORPHIC:RPE
Specificity:	MHC CLASS II MONOMORPHIC
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	IL-A21
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

Where this antibody 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 antibody for use in their own system using appropriate negative/positive controls.

Target Species	Bovine		
Product Form	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1.0 ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide (NaN ₃)		
Stabilisers	1% Bovine Serum Albumin 5% Sucrose		

RRID AB_11152946

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 MHC Class II Monomorphic antibody, clone IL-A21** recognizes a monomorphic epitope within the bovine MHC II cell surface antigen. Clone IL-A21 is reported to react with an epitope which is common to both BoLA DR and DQ ([Howard et al.1997](#)).

Expression of MHC II molecules have been demonstrated on bovine B cells, activated T cells, alveolar macrophages, monocytes and mammary and bronchial epithelial cells.

Clone IL-A21 is reported to inhibit T cell proliferation following FMDV infection ([Collen et al. 1991](#)).

Flow Cytometry Use 10ul of the suggested working dilution to label 1×10^6 cells in 100ul.

- References**
1. Collen, T. *et al.* (1991) A T cell epitope in VP1 of foot-and-mouth disease virus is immunodominant for vaccinated cattle. [J Immunol. 146 \(2\): 749-55.](#)
 2. Davies, C.J. *et al.* (1992) Characterization of bovine MHC class II polymorphism using three typing methods: serology, RFLP and IEF. [Eur J Immunogenet. 19 \(5\): 253-62.](#)
 3. Demartini, J.C. *et al.* (1993) Differential *in vitro* and *in vivo* expression of MHC class II antigens in bovine lymphocytes infected by *Theileria parva*. [Vet Immunol Immunopathol. 35 \(3-4\): 253-73.](#)
 4. Howard, C.J. *et al.* (1997) Identification of two distinct populations of dendritic cells in afferent lymph that vary in their ability to stimulate T cells. [J Immunol. 159 \(11\): 5372-82.](#)
 5. Ballingall, K. *et al.* (2001) Transcription of the unique ruminant class II major histocompatibility complex-DYA and DIB genes in dendritic cells. [Eur J Immunol. 31 \(1\): 82-6.](#)
 6. Sathiyaseelan, T. *et al.* (2002) Immunological characterization of a gammadelta T-cell stimulatory ligand on autologous monocytes. [Immunology. 105:181-9](#)
 7. Daubenberger, C. *et al.* (1999) Bovine gammadelta T-cell responses to the intracellular protozoan parasite *Theileria parva* [Infect Immun. 67:2241-9.](#)
 8. Constantinoiu, C.C. *et al.* (2010) Local immune response against larvae of *Rhipicephalus (Boophilus) microplus* in *Bos taurus indicus* and *Bos taurus taurus* cattle. [Int J Parasitol. 40: 865-75.](#)
 9. Dorneles, E.M. *et al.* (2015) Immune Response of Calves Vaccinated with *Brucella abortus* S19 or RB51 and Revaccinated with RB51. [PLoS One. 10 \(9\): e0136696.](#)
 10. Choi, K.S. (2017) The effect of bovine viral diarrhoea virus on bovine monocyte phenotype. [Iran J Vet Res. 18 \(1\): 13-17.](#)
 11. Sei, J.J. *et al.* (2016) Effect of Foot-and-Mouth Disease Virus Infection on the Frequency, Phenotype and Function of Circulating Dendritic Cells in Cattle. [PLoS One. 11 \(3\): e0152192.](#)
 12. 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.](#)
 13. Brodzki, P. *et al.* (2020) Selected leukocyte subpopulations in peripheral blood and

uterine washings in cows before and after intrauterine administration of cefapirin and methisoprinol. [Anim Sci J. 91 \(1\): e13306.](#)

14. Imrie, H. & Williams, D.J.L. (2019) Stimulation of bovine monocyte-derived macrophages with lipopolysaccharide, interferon- γ , Interleukin-4 or Interleukin-13 does not induce detectable changes in nitric oxide or arginase activity. [BMC Vet Res. 15 \(1\): 45.](#)

15. Marzo, S. *et al.* (2022) Characterisation of dendritic cell frequency and phenotype in bovine afferent lymph reveals kinetic changes in costimulatory molecule expression [Vet Immunol Immunopathol. 243: 110363.](#)

16. Casaro, S. *et al.* (2022) Flow cytometry panels for immunophenotyping dairy cattle peripheral blood leukocytes [Vet Immunol Immunopathol. 248: 110417.](#)

Storage	Prior to reconstitution store at +4°C. After 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/MCA2445PE
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:RPE \(MCA929PE\)](#)

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
'M375495:210104'

Printed on 14 May 2026