

Datasheet: MCA838F

Description:	MOUSE ANTI BOVINE WC1:FITC		
Specificity:	WC1		
Format:	FITC		
Product Type:	Monoclonal Antibody		
Clone:	CC15		
Isotype:	IgG2a		
Quantity:	0.1 mg		

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 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			
Species Cross Reactivity	reactivity is derived	ctivity and working condition of the condition of the condition of the condition of the control of the condition of the condi	aboratories, peer-revi	ewed publications or
Product Form	Purified IgG conjug	gated to Fluorescein Isotl	niocyanate Isomer 1 (FITC) - liquid
Max Ex/Em	Fluorophore FITC	Excitation Max (nm) 490	Emission Max (nm)	
Preparation	Purified IgG prepa supernatant	red by affinity chromatog	raphy on Protein A fro	om tissue culture
Buffer Solution	Phosphate buffere	d saline		

0.09% Sodium Azide 1% Bovine Serum Albumin
IgG concentration 0.1 mg/ml
Bovine lymphocytes
UniProt: P30205 Related reagents
Entrez Gene: 338056 CD163L1 Related reagents
AB_323777
Spleen cells from immunised BALB/c mice were fused with cells of the mouse NS1 myeloma cell line
Mouse anti Bovine WC1 antibody, clone CC15 recognizes bovine WC1.
WC1 is a ~215/300 kDa antigen expressed on the majority of gamma/delta T lymphocytes. These cells also express low levels of CD5, but are negative for other B and T cell markers. The WC1 antigen is reported to be involved in a number of processes, including activation of gamma/delta T cells and the development of a Th1-biased acquired immune response (Rogers et al. 2005).
Mouse anti Bovine WC1 antibody, clone CC15 is routinely tested in flow cytometry on bovine peripheral blood lymphocytes.
Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
1. Howard, C.J. <i>et al.</i> (1989) <i>In vivo</i> depletion of BoT4 (CD4) and of non-T4/T8 lymphocyte subsets in cattle with monoclonal antibodies. <u>Eur J Immunol. 19 (4): 757-64.</u> 2. Clevers, H. <i>et al.</i> (1990) Identification of a bovine surface antigen uniquely expressed on CD4-CD8- T cell receptor gamma/delta+ T lymphocytes. <u>Eur J Immunol. 20 (4): 809-17.</u>
 Gutierrez, M. et al. (1999) The detection of CD2+, CD4+, CD8+, and WC1+ T lymphocytes, B cells and macrophages in fixed and paraffin embedded bovine tissue using a range of antigen recovery and signal amplification techniques. Vet Immunol Immunopathol. 71 (3-4): 321-34. Brodersen, R. et al. (1998) Analysis of the immunological cross reactivities of 213 well characterized monoclonal antibodies with specificities against various leucocyte surface antigens of human and 11 animal species. Vet Immunol Immunopathol. 64 (1): 1-13. Winkler, M.T. et al. (2000) Persistence and reactivation of bovine herpesvirus 1 in the tonsils of latently infected calves. J Virol. 74 (11): 5337-46.

6. Sanchez, J. et al. (2011) Microscopical and immunological features of tuberculoid

- granulomata and cavitary pulmonary tuberculosis in naturally infected goats. <u>J Comp</u> Pathol. 145 (2-3): 107-17.
- 7. Fulton, B.E. Jr. *et al.* (2006) Dissemination of bovine leukemia virus-infected cells from a newly infected sheep lymph node. <u>J Virol. 80: 7873-84.</u>
- 8. Glew, E.J. and Howard, C.J. (2001) Antigen-presenting cells from calves persistently infected with bovine viral diarrhoea virus, a member of the Flaviviridae, are not compromised in their ability to present viral antigen. J Gen Virol. 82: 1677-85.
- 9. Liebana, E. *et al.* (2007) Distribution and activation of T-lymphocyte subsets in tuberculous bovine lymph-node granulomas. <u>Vet Pathol. 44: 366-72.</u>
- 10. Lynch, E.M. *et al.* (2010) Effect of abrupt weaning at housing on leukocyte distribution, functional activity of neutrophils, and acute phase protein response of beef calves. <u>BMC Vet Res. 6: 39.</u>
- 11. 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.
- 12. Maślanka T *et al.* (2012) The presence of CD25 on bovine WC1+ γ/δ T cells is positively correlated with their production of IL-10 and TGF- β , but not IFN- γ . Pol J Vet Sci. 15 (1): 11-20.
- 13. Herzig, C.T. *et al.* (2010) Evolution of the CD163 family and its relationship to the bovine gamma delta T cell co-receptor WC1. <u>BMC Evol Biol.</u> 10: 181.
- 14. Romero-Palomo, F. *et al.* (2017) Immunopathologic Changes in the Thymus of Calves Pre-infected with BVDV and Challenged with BHV-1. <u>Transbound Emerg Dis. 64 (2):</u> 574-84.
- 15. Goh, S. *et al.* (2016) Identification of *Theileria lestoquardi* Antigens Recognized by CD8+ T Cells. PLoS One. 11 (9): e0162571.
- 16. Wattegedera, S.R. *et al.* (2017) Enhancing the toolbox to study IL-17A in cattle and sheep. <u>Vet Res. 48 (1): 20.</u>
- 17. Franzin, A.M. *et al.* (2017) Immune and biochemical responses in skin differ between bovine hosts genetically susceptible and resistant to the cattle tick *Rhipicephalus microplus*. Parasit Vectors. 10 (1): 51.
- 18. Palomares, R.A. *et al.* (2015) Acute infection with bovine viral diarrhea virus of low or high virulence leads to depletion and redistribution of WC1(+) γδ T cells in lymphoid tissues of beef calves. <u>Vet Immunol Immunopathol</u>. 167 (3-4): 190-5.
- 19. Blumerman SL *et al.* (2007) Molecular cloning of bovine chemokine receptors and expression by WC1+ γδ T cells. <u>Dev Comp Immunol. 31 (1): 87-102.</u>
- 20. Hecker YP *et al.* (2013) Immune response and protection provided by live tachyzoites and native antigens from the NC-6 Argentina strain of *Neospora caninum* in pregnant heifers. Vet Parasitol. 197 (3-4): 436-46.
- 21. Martínez CM *et al.* (2005) Immunophenotypical characterization of lymphocyte subpopulations of the uterus of non-pregnant and pregnant goats. <u>Anat Histol Embryol. 34</u> (4): 240-6.
- 22. 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. <u>PLoS One. 10 (8): e0136865.</u>
- 23. Albertsson, A.M. *et al.* (2018) $\gamma\delta$ T Cells Contribute to Injury in the Developing Brain. Am J Pathol. 188 (3): 757-67.
- 24. 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.
- 25. Baliu-piqué, M. *et al.* (2019) Age-related distribution and dynamics of T-cells in blood and lymphoid tissues of goats. <u>Dev Comp Immunol. 93: 1-10.</u>
- 26. 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. <u>Parasit Vectors. 11 (1): 640.</u>
- 27. Gondaira, S. *et al.* (2020) Immunosuppression in Cows following Intramammary Infusion of *Mycoplasma bovis*. Infect Immun. 88 (3)Feb 20 [Epub ahead of print].
- 28. Park, D.S. *et al.* (2021) Dynamic changes in blood immune cell composition and function in Holstein and Jersey steers in response to heat stress. <u>Cell Stress Chaperones</u>. <u>26 (4): 705-20.</u>
- 29. de Arujo, F.F. *et al.* (2019) Distinct immune response profile during *Rhipicephalus* (*Boophilus*) *microplus*. infestations of guzerat dairy herd according to the maternal lineage ancestry (mitochondrial DNA). <u>Vet Parasitol. 273: 36-44.</u>
- 30. Zecconi, A. *et al.* (2018) Effects of herd and physiological status on variation of 16 immunological and inflammatory parameters in dairy cows during drying off and the transition period. <u>J Dairy Res. 85 (2): 167-73.</u>
- 31. Colombatti, M.O. *et al.* (2021) Evaluation of a virulent strain of *Mycobacterium avium* subsp. *Paratuberculosis* used as a heat-killed vaccine. <u>Vaccine</u>. 39 (51): 7401-12.
- 32. Bidart, J. *et al.* (2020) A New Cage-Like Particle Adjuvant Enhances Protection of Foot-and-Mouth Disease Vaccine. <u>Front Vet Sci. 7: 396.</u>
- 33. Kolar, Q.K. *et al.* (2020) Anatomical distribution of respiratory tract leukocyte cell subsets in neonatal calves. Vet Immunol Immunopathol. 227: 110090.
- 34. Elsayed, M.S.A.E. *et al.* (2022) Real-time PCR using atpE, conventional PCR targeting different regions of difference, and flow cytometry for confirmation of *Mycobacterium bovis*. in buffaloes and cattle from the Delta area of Egypt. <u>BMC Microbiol.</u> 22 (1): 154.
- 35. Andrés, S. *et al.* (2024) Essential oil supplementation in milk replacers: short- and long-term impacts on feed efficiency, the faecal microbiota and the plasma metabolome in dairy calves. <u>J Dev Orig Health Dis.: 1-11.</u>
- 36. Gillespie, A. *et al.* (2022) Next generation sequencing of transcribed genes in ruminant yδ T cell populations. Mol Immunol. 149: 129-42.

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
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA838F 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL:FITC (MCA929F)

 North & South
 Tel: +1 800 265 7376
 Worldwide
 Tel: +44 (0)1865 852 700
 Europe
 Tel: +49 (0) 89 8090 95 21

 America
 Fax: +1 919 878 3751
 Fax: +44 (0)1865 852 739
 Fax: +49 (0) 89 8090 95 50

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets 'M395220:220324'

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