

Datasheet: MCA834GA

BATCH NUMBER 1609

Description:	MOUSE ANTI BOVINE CD4
Specificity:	CD4
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	CC30
Isotype:	IgG1
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	▪			1/25 - 1/200
Immunohistology - Frozen	▪			1/100
Immunohistology - Paraffin (1)	▪			
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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.

(1)

Clone CC30 has been reported as being suitable for use on formal dichromate (FD5) fixed paraffin embedded tissue with amplification and antigen retrieval techniques, see [Gutierrez et al.](#) for details.

Target Species	Bovine
Species Cross Reactivity	<p>Reacts with: Bison</p> <p>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.</p>

Product Form	Purified IgG - liquid
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)
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Bovine thymocytes.
External Database Links	UniProt: A7YY52 Related reagents
Fusion Partners	Spleen cells from an immunised mouse were fused with cells of the mouse NS1 myeloma cell line.
Specificity	<p>Mouse anti Bovine CD4 antibody, clone CC30 recognizes a ~50 kDa transmembrane molecule considered to be the bovine homologue of human CD4. The phenotype, tissue distribution and function of T-cells expressing the bovine CD4 antigen are similar to those in other species. However, expression on macrophages has not yet been detected.</p> <p>Mouse anti Bovine CD4, clone CC30 has successfully been used for immunohistochemical localization of CD4 on paraffin embedded material using zinc salt fixation (Cantón et al. 2013). Additionally, clone CC30 has been reported as being suitable for use on formal dichromate (FD5) fixed paraffin embedded tissue with amplification and antigen retrieval techniques (Gutierrez et al. 1999).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> 1. Bensaid, A. & Hadam, M. (1991) Individual antigens of cattle. Bovine CD4 (BoCD4). Vet Immunol Immunopathol. 27 (1-3): 51-4. 2. Eskra, L. <i>et al.</i> (1991) Effect of monoclonal antibodies on in vitro function of T-cell subsets. Vet Immunol Immunopathol. 27 (1-3): 215-22. 3. Gutierrez, M. <i>et al.</i> (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. 4. Winkler, M.T. <i>et al.</i> (1999) Bovine herpesvirus 1 can infect CD4(+) T lymphocytes and induce programmed cell death during acute infection of cattle. J Virol. 73 (10): 8657-68. 5. Winkler, M.T. <i>et al.</i> (2000) Persistence and reactivation of bovine herpesvirus 1 in the tonsils of latently infected calves. J Virol. 74 (11): 5337-46.

6. Riondato, F. *et al.* (2008) Effects of road transportation on lymphocyte subsets in calves [Vet J. 175: 364-8.](#)
7. Collins, R.A. *et al.* (1999) Bovine interleukin-12 and modulation of IFN γ production. [Vet Immunol Immunopathol. 68: 193-207.](#)
8. Liebana, E. *et al.* (2007) Distribution and activation of T-lymphocyte subsets in tuberculous bovine lymph-node granulomas. [Vet Pathol. 44: 366-72.](#)
9. Sühwold, A. *et al.* (2010) T cell reactions of *Eimeria bovis* primary and challenge-infected calves. [Parasitol Res. 106: 595-605.](#)
10. Rhodes, S.G. *et al.* (2000) Bovine tuberculosis: immune responses in the peripheral blood and at the site of active disease. [Immunology. 99: 195-202.](#)
11. Machugh, N.D. *et al.* (1997) Identification of two distinct subsets of bovine gamma delta T cells with unique cell surface phenotype and tissue distribution. [Immunology. 92: 340-5.](#)
12. Childerstone, A.J. *et al.* (1999) Demonstration of bovine CD8+ T-cell responses to foot-and-mouth disease virus. [J Gen Virol. 80: 663-9.](#)
13. Rhodes, S.G. *et al.* (2001) Antigen recognition and immunomodulation by gamma delta T cells in bovine tuberculosis. [J Immunol. 166: 5604-10.](#)
14. Knowles, G. *et al.* (1996) Phenotypical characterization of lymphocytes infiltrating regressing papillomas. [J Virol. 70: 8451-8.](#)
15. Smyth, A.J. *et al.* (2001) In vitro responsiveness of gammadelta T cells from *Mycobacterium bovis*-infected cattle to mycobacterial antigens: predominant involvement of WC1(+) cells. [Infect Immun. 69: 89-96.](#)
16. Hein, W.R. and Dudler, L. (1997) TCR gamma delta+ cells are prominent in normal bovine skin and express a diverse repertoire of antigen receptors. [Immunology. 91: 58-64.](#)
17. Juleff, N. *et al.* (2009) Foot-and-mouth disease virus can induce a specific and rapid CD4+ T-cell-independent neutralizing and isotype class-switched antibody response in naïve cattle. [J Virol. 83: 3626-36.](#)
18. Hope, J.C. *et al.* (2005) Exposure to *Mycobacterium avium* induces low-level protection from *Mycobacterium bovis* infection but compromises diagnosis of disease in cattle. [Clin Exp Immunol. 141: 432-9.](#)
19. Sopp, P. *et al.* (2006) Flow cytometric detection of gamma interferon can effectively discriminate *Mycobacterium bovis* BCG-vaccinated cattle from *M. bovis*-infected cattle. [Clin Vaccine Immunol. 13: 1343-8.](#)
20. Sacchini, F. *et al.* (2011) A minor role of CD4+ T lymphocytes in the control of a primary infection of cattle with *Mycoplasma mycoides* subsp. *mycoides*. [Vet Res. 42: 77.](#)
21. Skyberg, J.A. *et al.* (2011) Murine and bovine $\gamma\delta$ T cells enhance innate immunity against *Brucella abortus* infections. [PLoS One. 6\(7\): e21978.](#)
22. Cantón, G.J. *et al.* (2013) Phenotypic characterisation of the cellular immune infiltrate in placentas of cattle following experimental inoculation with *Neospora caninum* in late gestation. [Vet Res. 44: 60.](#)
23. Reid, E. *et al.* (2011) Bovine plasmacytoid dendritic cells are the major source of type I interferon in response to foot-and-mouth disease virus *in vitro* and *in vivo*. [J Virol. 85: 4297-308.](#)
24. Arranz-Solís D *et al.* (2016) Systemic and local immune responses in sheep after *Neospora caninum* experimental infection at early, mid and late gestation. [Vet Res. 47 \(1\): 2.](#)
25. Clapp, B. *et al.* (2011) DNA vaccination of bison to brucellar antigens elicits elevated

- antibody and IFN- γ responses. [J Wildl Dis. 47 \(3\): 501-10.](#)
26. Salman S *et al.* (2013) Colostrum and milk selenium, antioxidative capacity and immune status of dairy cows fed sodium selenite or selenium yeast. [Arch Anim Nutr. 67 \(1\): 48-61.](#)
27. Aranday-Cortes, E. *et al.* (2013) Upregulation of IL-17A, CXCL9 and CXCL10 in early-stage granulomas induced by *Mycobacterium bovis* in cattle. [Transbound Emerg Dis. 60 \(6\): 525-37.](#)
28. Pirson, C. *et al.* (2015) Highly purified mycobacterial phosphatidylinositol mannosides drive cell-mediated responses and activate NKT cells in cattle. [Clin Vaccine Immunol. 22 \(2\): 178-84.](#)
29. Fuertes, M. *et al.* (2015) Immunohistochemical study and mRNA cytokine profile of the local immune response in cattle naturally infected with *Calicophoron daubneyi*. [Vet Parasitol. 214 \(1-2\): 178-83.](#)
30. Çomaklı, S. & Özdemir, S. (2019) Comparative Evaluation of the Immune Responses in Cattle Mammary Tissues Naturally Infected with Bovine Parainfluenza Virus Type 3 and Bovine Alpha herpesvirus-1. [Pathogens. 8 \(1\)Feb 25 \[Epub ahead of print\].](#)
31. Bozkurt, Y.A. *et al.* (2019) The architecture of the lymph nodes in the abdominal and thoracic cavities of wild boar [Ind J Anim Res. 53 609-15.](#)
32. Hecker, Y.P. *et al.* (2015) Cell mediated immune responses in the placenta following challenge of vaccinated pregnant heifers with *Neospora caninum*. [Vet Parasitol. 214 \(3-4\): 247-54.](#)
33. Cunha, P. *et al.* (2019) Expansion, isolation and first characterization of bovine Th17 lymphocytes. [Sci Rep. 9 \(1\): 16115.](#)

Storage	<p>Store at +4°C or at -20°C if preferred.</p> <p>This product should be stored undiluted.</p> <p>Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.</p>
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Guarantee	12 months from date of despatch
Health And Safety Information	<p>Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA834GA</p> <p>10040</p>
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC

Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®550 , DyLight®650 , DyLight®680 , DyLight®800 , FITC , HRP

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

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
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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M373335:200910'

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