Datasheet: MCA2678F

Description:	MOUSE ANTI BOVINE CD14:FITC
Specificity:	CD14
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	CC-G33
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	▪			

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: Sheep, Human, Water Buffalo

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 Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers	0.09% Sodium Azide (NaN_3) 1% Bovine Serum Albumin
Approx. Protein Concentrations	IgG concentration 0.1mg/ml
Immunogen	Partially purified polypeptides isolated from bovine leucocyte cell surface membrane.
External Database Links	**UniProt:** Q95122 Related reagents **Entrez Gene:** 281048 CD14 Related reagents
RRID	AB_1604717
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the NS1 myeloma cell line.
Specificity	**Mouse anti Bovine CD14, clone CC-G33** is a monoclonal antibody recognizing bovine CD14, a GPI-anchored membrane glycoprotein and monocyte/macrophage differentiation antigen, belonging to the lipopolysaccharide receptor family, also expressed weakly on microglia and Langerhans cells. CD14 acts as a receptor for the potent bacterial endotoxin, lipopolysaccharide (LPS), facilitated by LPS-binding protein (LBP). The binding of LPS to CD14 results in cell activation and the release of cytokines and the inflammatory response, and has been shown to upregulate the cell surface expression of adhesion molecules. Mouse anti Bovine CD14 clone CC-G33 cross-reacts with human CD14 expressed on transfected COS-7 cells, and also recognises an epitope on ovine CD14, see Sopp *et al.* 1996 for details. CC-G33 has also been shown to be reactive with CD14 from the Water buffalo (*Bubalus bubalis*), see Mirielli *et al.* 2013.
Flow Cytometry	Use 10ul of the suggested working dilution to label $1x10^6$ cells in 100ul.
References	1. Villarreal-Ramos, B. *et al.* (2006) Influence of the nature of the antigen on the boosting of responses to mycobacteria in *M. bovis*-BCG vaccinated cattle. Vaccine. 24 (47-48): 6850-8. 2. Pirson, C. *et al.* (2012) Differential effects of Mycobacterium bovis - derived polar and apolar lipid fractions on bovine innate immune cells. Vet Res. 43: 54. 3. Berthon, P. & Hopkins, J. (1996) Ruminant cluster CD14. Vet Immunol Immunopathol. 52 (4): 245-8. 4. Glew, E.J. *et al.* (2003) Differential effects of bovine viral diarrhoea virus on monocytes and dendritic cells. J Gen Virol. 84: 1771-80. 5. Harris, J. *et al.* (2003) Expression of caveolin by bovine lymphocytes and antigen-presenting cells. Immunology. 105: 190-5.

6. Yamakawa, Y. *et al.* (2008) Identification and functional characterization of a bovine orthologue to DC-SIGN. J Leukoc Biol. 83: 1396-403.
7. Herath, S. *et al.* (2006) Expression and function of Toll-like receptor 4 in the endometrial cells of the uterus. Endocrinology. 147: 562-70.
8. Gliddon, D.R. *et al.* (2004) DEC-205 expression on migrating dendritic cells in afferent lymph. Immunology. 11: 262-72.
9. Villarreal-Ramos, B. *et al.* (2003) Investigation of the role of CD8+ T cells in bovine tuberculosis *in vivo*. Infect Immun.71: 4297-303.
10. Leung, S.T. *et al.* (2000) Uterine lymphocyte distribution and interleukin expression during early pregnancy in cows. J Reprod Fertil. 119: 25-33.
11. Vrieling, M. *et al.* (2015) Bovine *Staphylococcus aureus* Secretes the Leukocidin LukMF' To Kill Migrating Neutrophils through CCR1. MBio. 6 (3): e00335.
12. Gibson, A. *et al.* (2012) Identification of a lineage negative cell population in bovine peripheral blood with the ability to mount a strong type I interferon response Dev Comp Immunol. 36: 332-41.
13. Haas, K.M. and Estes, D.M. (2001) The identification and characterization of a ligand for bovine CD5. J Immunol. 166: 3158-66.
14. Miarelli, M. *et al.* (2013) Tyrosine phosphorylation of monocyte-derived macrophage proteins in buffalo (*Bubalus bubalis*): A potential phenotype of natural resistance Open J Anim Sci. 3 (2): 127-31.
15. Altreuther, G. *et al.* (2001) Morphologic and functional changes in bovine monocytes infected in vitro with the bovine leukaemia virus. Scand J Immunol. 54: 459-69.
16. Brodzki, P. *et al.* (2014) Phenotyping of leukocytes and granulocyte and monocyte phagocytic activity in the peripheral blood and uterus of cows with endometritis. Theriogenology. 82 (3): 403-10.
17. Fikri Y *et al.* (2002) Costimulatory molecule requirement for bovine WC1+gammadelta T cells' proliferative response to bacterial superantigens. Scand J Immunol. 55 (4): 373-81.
18. Hecker YP *et al.* (2014) A *Neospora caninum* vaccine using recombinant proteins fails to prevent foetal infection in pregnant cattle after experimental intravenous challenge. Vet Immunol Immunopathol. 162 (3-4): 142-53.
19. Herry, V. *et al.* (2017) Local immunization impacts the response of dairy cows to *Escherichia coli* mastitis. Sci Rep. 7 (1): 3441.
20. Pepponi, I. *et al.* (2017) A mycobacterial growth inhibition assay (MGIA) for bovine TB vaccine development. Tuberculosis (Edinb). 106: 118-22.
21. 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.

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: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:FITC (MCA928F)

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

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

'M385827:210513'

Printed on 05 Oct 2021