Datasheet: MCA2678SBV610

Description:	MOUSE ANTI BOVINE CD14:StarBright Violet 610
Specificity:	CD14
Format:	StarBright Violet 610
Product Type:	Monoclonal Antibody
Clone:	CC-G33
Isotype:	IgG1
Quantity:	100 TESTS/0.5ml

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 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 StarBright Violet 610 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright Violet 610	403	607

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) 1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
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_2943397
Fusion Partners	Spleen cells from immunized Balb/c mice were fused with cells of the NS1 myeloma cell line.
Specificity	**Mouse anti Bovine CD14, clone CC-G33** recognizes bovine CD14. CD14 is 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 (Berthon & Hopkins 1996), ovine CD14 (Sopp *et al*. 1996) and Water buffalo (*Bubalus bubalis*) CD14, (Mirielli *et al.* 2013).
Flow Cytometry	Use 5µl of the suggested working dilution to label 10^6 cells in 100µl. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
References	1. Berthon, P. & Hopkins, J. (1996) Ruminant cluster CD14. Vet Immunol Immunopathol. 52 (4): 245-8. 2. Haas, K.M. and Estes, D.M. (2001) The identification and characterization of a ligand for bovine CD5. J Immunol. 166: 3158-66. 3. 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. 4. 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. 5. Glew, E.J. *et al.* (2003) Differential effects of bovine viral diarrhoea virus on monocytes and dendritic cells. J Gen Virol. 84: 1771-80.

6. Harris, J. *et al.* (2003) Expression of caveolin by bovine lymphocytes and antigen-presenting cells. Immunology. 105: 190-5.
7. Villarreal-Ramos, B. *et al.* (2003) Investigation of the role of CD8+ T cells in bovine tuberculosis *in vivo*. Infect Immun.71: 4297-303.
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.* (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.
10. Herath, S. *et al.* (2006) Expression and function of Toll-like receptor 4 in the endometrial cells of the uterus. Endocrinology. 147: 562-70.
11. Yamakawa, Y. *et al.* (2008) Identification and functional characterization of a bovine orthologue to DC-SIGN. J Leukoc Biol. 83: 1396-403.
12. 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.
13. 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.
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. 03 (02): 127-31.
15. 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.
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. Vrieling, M. *et al.* (2015) Bovine *Staphylococcus aureus* Secretes the Leukocidin LukMF' To Kill Migrating Neutrophils through CCR1. MBio. 6 (3): e00335.
18. Herry, V. *et al.* (2017) Local immunization impacts the response of dairy cows to *Escherichia coli* mastitis. Sci Rep. 7 (1): 3441.
19. Pepponi, I. *et al.* (2017) A mycobacterial growth inhibition assay (MGIA) for bovine TB vaccine development. Tuberculosis (Edinb). 106: 118-22.
20. 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.
21. de Araújo, 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). Vet Parasitol. 273: 36-44.
22. Oliveira, B.M. *et al.* (2020) Characterization of Myeloid Cellular Populations in Mesenteric and Subcutaneous Adipose Tissue of Holstein-Friesian Cows. Sci Rep. 10 (1): 1771.
23. Liu, J. *et al.* (2020) *Theileria annulata.* transformation altered cell surface molecules expression and endocytic function of monocyte-derived dendritic cells. Ticks Tick Borne Dis. 11 (3): 101365.
24. Wu, Y. *et al.* (2019) Changes in the small intestine mucosal immune barrier in Muscovy ducklings infected with Muscovy duck reovirus. Vet Microbiol. 233: 85-92.

25. 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. J Dev Orig Health Dis. : 1-11.
26. Broberg, L. *et al.* (2021) Isolation and characterization of eosinophils in bovine blood and small intestine. Vet Immunol Immunopathol. 242: 110352.
27. Zhang, M. *et al.* (2024) PCV2 Induced Endothelial Derived IL-8 Affects MoDCs Maturation Mainly via NF-κB Signaling Pathway Viruses. 16 (4): 646.

Storage	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
Guarantee	12 months from date of despatch
Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety Information	Material Safety Datasheet documentation #20471 available at: https://www.bio-rad-antibodies.com/SDS/MCA2678SBV610 20471
Regulatory	For research purposes only

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