# Datasheet: MCA2678F

## BATCH NUMBER 1708

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| **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

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| **Preservative Stabilisers** | 0.09% Sodium Azide ($NaN_3$)<br>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:**<br>Q95122 Related reagents<br><br>**Entrez Gene:**<br>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.<br><br>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.<br><br>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.<br>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.<br>3. Berthon, P. & Hopkins, J. (1996) Ruminant cluster CD14. Vet Immunol Immunopathol. 52 (4): 245-8.<br>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.<br>5. Harris, J. *et al.* (2003) Expression of caveolin by bovine lymphocytes and antigen-presenting cells. Immunology. 105: 190-5. |

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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.
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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.

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| **Storage** | Store at +4$^{o}$C or at -20$^{o}$C if preferred.<br>Storage in frost-free freezers is not recommended.<br>This product should be stored undiluted. This product is photosensitive and should be protected from light. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use. |
| **Guarantee** | 12 months from date of despatch |

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| **Health And Safety Information** | Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2678F 10041 |
| **Regulatory** | For research purposes only |

## Related Products

### Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:FITC (MCA928F)


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|---|---|---|---|---|---|
| **North & South America** | Tel: +1 800 265 7376<br>Fax: +1 919 878 3751<br>Email: antibody_sales_us@bio-rad.com | **Worldwide** | Tel: +44 (0)1865 852 700<br>Fax: +44 (0)1865 852 739<br>Email: antibody_sales_uk@bio-rad.com | **Europe** | Tel: +49 (0) 89 8090 95 21<br>Fax: +49 (0) 89 8090 95 50<br>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

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