# Datasheet: MCA5953PE

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| **Description:** | MOUSE ANTI BOVINE CD21:RPE |
| **Specificity:** | CD21 |
| **Other names:** | CR2 |
| **Format:** | RPE |
| **Product Type:** | Monoclonal Antibody |
| **Clone:** | CC51 |
| **Isotype:** | IgG2b |
| **Quantity:** | 100 TESTS |

## 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: Pig, African 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 R. Phycoerythrin (RPE) - lyophilized

**Reconstitution**

Reconstitute with 1.0 ml distilled water

Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution.

**Max Ex/Em**

| Fluorophore | Excitation Max (nm) | Emission Max (nm) |
|---|---|---|
| RPE 488nm laser | 496 | 578 |

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| **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 ($NaN_3$)<br>1% Bovine Serum Albumin<br>5% Sucrose |
| **Immunogen** | Bovine (Friesian cattle) mesenteric lymph node cells. |
| **External Database Links** | **UniProt:**<br>Q8HY44 Related reagents |
| **Fusion Partners** | Spleen cells from immunized BALB/c mice were fused with cells of the mouse NSI myeloma cell line |
| **Specificity** | **Mouse anti Bovine CD21 monoclonal antibody, clone CC51** recognizes the bovine homologue of the human CD21 cell surface antigen, a 145 kDa single pass type I membrane glycoprotein containing multiple sushi domains. CD21 is also known as complement receptor type 2 (CR2). In cattle CD21 expression is restricted to B-cells (Naessens *et al.* 1990). CD21 may be expressed on B-cells as either a long or a short form (Pringle *et al.* 2012).<br><br>Mouse anti Bovine CD21, clone CC51 demonstrates cross reactivity with porcine and provides a reliable marker for porcine B-Cells (Sinkora *et. al.* 2013). In addition to clone CC51, clone CC21 (MCA1424GA) which has been demonstrated to recognise CD21 in a range of ruminant and other species is also available from Bio-Rad. |
| **Flow Cytometry** | Use 10ul of the suggested working dilution to label $1x10^6$ cells in 100ul |
| **References** | 1. Denham S. *et al.* (1994) Monoclonal antibodies recognising differentiation antigens on porcine B cells. Vet Immunol Immunopathol. 43: 259-67.<br>2. Boersma W.J. *et al.* (2001) Summary of workshop findings for porcine B-cell markers. Vet Immunol Immunopathol. 80: 63-78.<br>3. Tenaya I.W. *et al.* (2012) Flow cytometric analysis of lymphocyte subset kinetics in Bali cattle experimentally infected with Jembrana disease virus. Vet Immunol Immunopathol. 149: 167-76.<br>4. Sinkora, M *et al.* (2013) Different anti-CD21 antibodies can be used to discriminate developmentally and functionally different subsets of B lymphocytes in circulation of pigs. Dev Comp Immunol. 39: 409-18.<br>5. Sinkora, M. *et al.* (2014) The comparative profile of lymphoid cells and the T and B cell spectratype of germ-free piglets infected with viruses SIV, PRRSV or PCV2. Vet Res. 45: 91.<br>6. 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. |

7. Li, J. *et al.* (2023) Single-cell transcriptomic analysis reveals transcriptional and cell subpopulation differences between human and pig immune cells. Genes Genomics. Nov 18 [Epub ahead of print].
8. Seemann, L. *et al.* (2024) Dietary L-carnitine supplementation modifies blood parameters of mid-lactating dairy cows during standardized lipopolysaccharide-induced inflammation. Front Immunol. 15: 1390137.
9. Yuan, C. *et al.* (2024) Effects of porcine epidemic diarrhea virus infection on CD21(+) B cells activation. Vet Microbiol. 293: 110087.

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| **Storage** | Store at +4°C. DO NOT FREEZE.<br>This product should be stored undiluted. 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 #20487 available at:<br>https://www.bio-rad-antibodies.com/SDS/MCA5953PE<br>20487 |
| **Regulatory** | For research purposes only |

## Related Products

### Recommended Negative Controls

MOUSE IgG2b NEGATIVE CONTROL:RPE (MCA691PE)

**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
'M419421:230616'

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