Datasheet: MCA5953A647

Description:	MOUSE ANTI BOVINE CD21:Alexa Fluor® 647
Specificity:	CD21
Other names:	CR2
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	CC51
Isotype:	IgG2b
Quantity:	100 TESTS/1ml

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 - 1/10

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.

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 Alexa Fluor 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

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
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml
Immunogen	Bovine (Friesian cattle) mesenteric lymph node cells.
External Database Links	**UniProt:** 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). 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. 2. Boersma W.J. *et al.* (2001) Summary of workshop findings for porcine B-cell markers. Vet Immunol Immunopathol. 80: 63-78. 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. 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. 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. 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.

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.
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/MCA5953A647 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG2b NEGATIVE CONTROL:Alexa Fluor® 647 (MCA691A647)

Recommended Useful Reagents

MOUSE ANTI PIG CD3:RPE (MCA5951PE)
MOUSE ANTI PIG CD3 (MCA5951GA)
MOUSE ANTI PIG SLA CLASS II DR (MCA2314GA)
RAT ANTI HUMAN CD3:Pacific Blue® (MCA1477PB)
MOUSE ANTI BOVINE CD4:RPE (MCA1653PE)
MOUSE ANTI HUMAN CD14:Pacific Blue® (MCA1568PB)
MOUSE ANTI HUMAN CD14:RPE (MCA1568PE)
MOUSE ANTI BOVINE CD25:RPE (MCA2430PE)
MOUSE ANTI BOVINE MHC CLASS II DR:RPE (MCA5656PE)
MOUSE ANTI PIG CD4 ALPHA:RPE (MCA1749PE)
MOUSE ANTI PIG CD25 (MCA1736GA)

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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