Datasheet: MCA1655A647

BATCH NUMBER 152549

Description:	MOUSE ANTI BOVINE WC1:Alexa Fluor® 647
Specificity:	WC1
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	CC101
Isotype:	IgG2a
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 - 1/2

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, Sheep

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	Con A stimulated bovine lymphocytes
External Database Links	**UniProt:** P30205 Related reagents **Entrez Gene:** 338056 CD163L1 Related reagents
Specificity	**Mouse anti Bovine WC1 antibody, clone CC101**, recognizes a subset of $WC1^+$ T-cells expressing the WC1.1 isoform (MacHugh *et al.* 1993). The bovine WC1 cell surface antigen is expressed by a population of gamma/delta T-cells that lack CD2, CD4 and CD8, but express CD3. WC1 expression appears to be heterogeneous and antibodies to this cluster show differing reaction patterns (Crocker *et al.* 1993). Mouse anti bovine WC1, clone CC101, immunoprecipitates a 215 kDa molecule from bovine cells and also recognizes the swine homolog of WC1, which is a 180 kDa molecule. In pigs, the 180 kDa molecule is expressed by a gamma/delta TCR positive T-cell population that also lack CD2, CD4 and CD8 (Carr *et al.* 1994).
Flow Cytometry	Use 10ul of the suggested working dilution to label $1x10^6$ cells in 100ul
References	1. Howard, C.J. & Naessens, J. (1993) Summary of workshop findings for cattle. Vet Immunol Immunopathol. 39: 25-48. 2. MacHugh, N. *et al*. (1993) Clustering of monoclonal antibodies recognizing different members of the WC1 gene family. Vet Immunol Immunopathol. 39: 155-60. 3. Crocker, G. *et al*. (1993) Analysis of the gamma/delta T cell restricted antigen WC1. Vet Immunol Immunopathol. 39: 137-44. 4. Lund, B. *et al*. (1993) Expression of T19 (WC1) molecules by ovine lymphocytes. Vet Immunol Immunopathol. 39: 145-53. 5. Schröder, A.C. & Hamann, J. (2005) The influence of technical factors on differential cell count in milk. J Dairy Res. 72: 153-8. 6. Patarroyo, J.H. *et al.* (2009) Immune response of bovines stimulated by synthetic vaccine SBm7462 against *Rhipicephalus (Boophilus) microplus*. Vet Parasitol. 166: 333-9. 7. Al-Mohammed Salem Kazem, T. *et al.* (2012) The Cellular Populations of Normal Camel (Camelus dromedaries) Milk Open Journal of Veterinary Medicine. 02 (04): 262-5. 8. Sedlak, C. *et al.* (2014) IL-12 and IL-18 induce interferon-γ production and *de novo* CD2 expression in porcine γδ T cells. Dev Comp Immunol. 47: 115-22. 9. Liu, X. *et al.* (2014) Crusted scabies is associated with increased IL-17 secretion by

skin T cells. Parasite Immunol. 36: 594-604.
10. Al-Ashqar, R.A. *et al.* (2015) The CD markers of camel (*Camelus dromedarius.*) milk cells during mastitis: the LPAM-1 expression is an indication of possible mucosal nature of the cellular trafficking. Res Vet Sci. 99: 77-81.
11. Heiser, A. *et al.* (2015) Grazing dairy cows had decreased interferon-γ, tumor necrosis factor, and interleukin-17, and increased expression of interleukin-10 during the first week after calving. J Dairy Sci. 98: 937-46.
12. Herry, V. *et al.* (2017) Local immunization impacts the response of dairy cows to *Escherichia coli* mastitis. Sci Rep. 7 (1): 3441.
13. Hussen, J. *et al.* (2018) Expression Patterns of Cell Adhesion Molecules on CD4+ T Cells and WC1+ T Cells in the Peripheral Blood of Dromedary Camels. Pakistan Veterinary Journal. 38 (03): 231-236.
14. Kato-Mori, Y. *et al.* (2021) Characterization of a variant CD4 molecule in Japanese Black cattle. Vet Immunol Immunopathol. 232: 110167.
15. Blanco, F.C. *et al.* (2021) Identifying Bacterial and Host Factors Involved in the Interaction of *Mycobacterium bovis* with the Bovine Innate Immune Cells. Front Immunol. 12: 674643.

Further Reading

1. Wijngaard, P. *et al.* (1992) Molecular characterization of the WC1 antigen expressed specifically on bovine CD4-CD8- gamma delta T lymphocytes. J Immunol. 149: 3273-7.
2. Takamatsu, H.H. *et al.* (2006) Porcine gammadelta T cells: possible roles on the innate and adaptive immune responses following virus infection. Vet Immunol Immunopathol. 112: 49-61.
3. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39: 54.

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

Acknowledgements

Health And Safety Information

Material Safety Datasheet documentation #10041 available at:
https://www.bio-rad-antibodies.com/SDS/MCA1655A647

	10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 (MCA929A647)

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

'M423480:231017'

Printed on 10 Apr 2025