

Datasheet: MCA1655A647

BATCH NUMBER 173966

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	<table><tr><th>Fluorophore</th><th>Excitation Max (nm)</th><th>Emission Max (nm)</th></tr><tr><td>Alexa Fluor®647</td><td>650</td><td>665</td></tr></table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	Alexa Fluor®647	650	665		
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	- Howard, C.J. & Naessens, J. (1993) Summary of workshop findings for cattle. Vet Immunol Immunopathol. 39: 25-48. - MacHugh, N. et al. (1993) Clustering of monoclonal antibodies recognizing different members of the WC1 gene family. Vet Immunol Immunopathol. 39: 155-60. - Crocker, G. et al. (1993) Analysis of the gamma/delta T cell restricted antigen WC1. Vet Immunol Immunopathol. 39: 137-44. - Lund, B. et al. (1993) Expression of T19 (WC1) molecules by ovine lymphocytes. Vet Immunol Immunopathol. 39: 145-53. - Schröder, A.C. & Hamann, J. (2005) The influence of technical factors on differential cell count in milk. J Dairy Res. 72: 153-8. - Patarroyo, J.H. et al. (2009) Immune response of bovines stimulated by synthetic vaccine SBm7462 against <i>Rhipicephalus (Boophilus) microplus</i>. Vet Parasitol. 166: 333-9. - Al-Mohammed Salem Kazem, T. et al. (2012) The Cellular Populations of Normal Camel (<i>Camelus dromedaries</i>) Milk Open Journal of Veterinary Medicine. 02 (04): 262-5. - Sedlak, C. et al. (2014) IL-12 and IL-18 induce interferon-γ production and <i>de novo</i> CD2 expression in porcine γδ T cells. Dev Comp Immunol. 47: 115-22. - 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. Hussien, 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

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Health And Safety Information

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

Related Products

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA929A647\)](#)

Product inquiries: www.bio-rad-antibodies.com/technical-support

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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