

## Datasheet: MCA1655A647

<b>Description:</b>	MOUSE ANTI BOVINE WC1:Alexa Fluor® 647
<b>Specificity:</b>	WC1
<b>Format:</b>	ALEXA FLUOR® 647
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	CC101
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	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](http://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

<b>Preservative</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Stabilisers</b>	1% Bovine Serum Albumin
<b>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml
<b>Immunogen</b>	Con A stimulated bovine lymphocytes
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P30205</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">338056</a>    CD163L1    <a href="#">Related reagents</a></p>
<b>Specificity</b>	<p><b>Mouse anti Bovine WC1 antibody, clone CC101</b>, recognizes a subset of WC1<sup>+</sup> T-cells expressing the WC1.1 isoform (MacHugh <i>et al.</i> 1993).</p> <p>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 (<a href="#">Crocker <i>et al.</i> 1993</a>).</p> <p>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 (<a href="#">Carr <i>et al.</i> 1994</a>).</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 1x10 <sup>6</sup> cells in 100ul
<b>References</b>	<ol style="list-style-type: none"> <li>Howard, C.J. &amp; Naessens, J. (1993) Summary of workshop findings for cattle. <a href="#">Vet Immunol Immunopathol. 39: 25-48.</a></li> <li>MacHugh, N. <i>et al.</i> (1993) Clustering of monoclonal antibodies recognizing different members of the WC1 gene family. <a href="#">Vet Immunol Immunopathol. 39: 155-60.</a></li> <li>Crocker, G. <i>et al.</i> (1993) Analysis of the gamma/delta T cell restricted antigen WC1. <a href="#">Vet Immunol Immunopathol. 39: 137-44.</a></li> <li>Lund, B. <i>et al.</i> (1993) Expression of T19 (WC1) molecules by ovine lymphocytes. <a href="#">Vet Immunol Immunopathol. 39: 145-53.</a></li> <li>Schröder, A.C. &amp; Hamann, J. (2005) The influence of technical factors on differential cell count in milk. <a href="#">J Dairy Res. 72: 153-8.</a></li> <li>Patarroyo, J.H. <i>et al.</i> (2009) Immune response of bovines stimulated by synthetic vaccine SBm7462 against <i>Rhipicephalus (Boophilus) microplus</i>. <a href="#">Vet Parasitol. 166: 333-9.</a></li> <li>Al-Mohammed Salem Kazem, T. <i>et al.</i> (2012) The Cellular Populations of Normal Camel (&lt;i&gt;Camelus dromedaries&lt;/i&gt;) Milk <a href="#">Open Journal of Veterinary Medicine. 02 (04): 262-5.</a></li> <li>Sedlak, C. <i>et al.</i> (2014) IL-12 and IL-18 induce interferon-γ production and <i>de novo</i> CD2 expression in porcine γδ T cells. <a href="#">Dev Comp Immunol. 47: 115-22.</a></li> <li>Liu, X. <i>et al.</i> (2014) Crusted scabies is associated with increased IL-17 secretion by</li> </ol>

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- $\gamma$ , 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.](#)

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**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.](#)

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**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.

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**Guarantee**

12 months from date of despatch

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**Acknowledgements**

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**Health And Safety Information**

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

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Negative Controls

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

**North & South** Tel: +1 800 265 7376

**Worldwide**

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**Europe**

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'M437875:250319'

**Printed on 10 Apr 2025**

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