

## Datasheet: MCA5656

<b>Description:</b>	MOUSE ANTI BOVINE MHC CLASS II DR
<b>Specificity:</b>	MHC CLASS II DR
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	CC108
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.25 mg

## 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	▪			1/25 - 1/200
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	
Functional Assays			▪	

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.

<b>Target Species</b>	Bovine
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Carrier Free</b>	Yes

<b>Approx. Protein Concentrations</b>	IgG concentration 1.0mg/ml
<b>External Database Links</b>	<b>UniProt:</b> <a href="#">Q30309</a> <a href="#">Related reagents</a> <a href="#">P79464</a> <a href="#">Related reagents</a>
<b>RRID</b>	AB_10843456
<b>Fusion Partners</b>	Spleen cells from immunized BALB/c mice were fused with cells of the Mouse NS1 myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Bovine MHC class II DR antibody, clone CC108</b> recognizes Bovine MHC Class II DR. MHC Class II molecules are constitutively expressed on antigen presenting cells such as dendritic cells, B lymphocytes, monocytes, macrophages, activated T lymphocytes and may be induced on a range of other cell types by interferon gamma.</p> <p>The major histocompatibility complex (MHC) is a cluster of genes some of which are important in the immune response to infections. In cattle, this complex is referred to as the bovine leukocyte antigen (BoLA) region. There are 2 major types of MHC class IIa molecules encoded by the BoLA which are DR and DQ each composed of an alpha and beta chain.</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label $1 \times 10^6$ cells in 100ul.
<b>References</b>	<ol style="list-style-type: none"> <li>Stephens, S.A. &amp; Howard, C.J. (2002) Infection and transformation of dendritic cells from bovine afferent lymph by <i>Theileria annulata</i>. <a href="#">Parasitology. 124 (Pt 5): 485-93.</a></li> <li>Yamakawa, Y. <i>et al.</i> (2008) Identification and functional characterization of a bovine orthologue to DC-SIGN. <a href="#">J Leukoc Biol. 83 (6): 1396-403.</a></li> <li>Corripio-Miyar, Y. <i>et al.</i> (2015) Phenotypic and functional analysis of monocyte populations in cattle peripheral blood identifies a subset with high endocytic and allogeneic T-cell stimulatory capacity. <a href="#">Vet Res. 46: 112.</a></li> <li>Guzman, E. <i>et al.</i> (2014) Bovine <math>\gamma\delta</math> T cells are a major regulatory T cell subset. <a href="#">J Immunol. 193 (1): 208-22.</a></li> <li>Childerstone, A.J. <i>et al.</i> (1999) Demonstration of bovine CD8+ T-cell responses to foot-and-mouth disease virus. <a href="#">J Gen Virol. 80 ( Pt 3): 663-9.</a></li> <li>Sopp, P. <i>et al.</i> (1994) Detection of bovine viral diarrhoea virus p80 protein in subpopulations of bovine leukocytes. <a href="#">J Gen Virol. 75 ( Pt 5): 1189-94.</a></li> <li>Bembridge, G.P. <i>et al.</i> (1995) CD45RO expression on bovine T cells: relation to biological function. <a href="#">Immunology. 86 (4): 537-44.</a></li> <li>Gibson, A.J. <i>et al.</i> (2016) Differential macrophage function in Brown Swiss and Holstein Friesian cattle. <a href="#">Vet Immunol Immunopathol. 181: 15-23.</a></li> <li>Corripio-Miyar, Y. <i>et al.</i> (2017) 1,25-Dihydroxyvitamin D3 modulates the phenotype and function of Monocyte derived dendritic cells in cattle. <a href="#">BMC Vet Res. 13 (1): 390.</a></li> <li>Risalde, M.A. <i>et al.</i> (2020) BVDV permissiveness and lack of expression of co-stimulatory molecules on PBMCs from calves pre-infected with BVDV. <a href="#">Comp Immunol Microbiol Infect Dis. 68: 101388.</a></li> </ol>

11. Park, D.S. *et al.* (2021) Dynamic changes in blood immune cell composition and function in Holstein and Jersey steers in response to heat stress. [Cell Stress Chaperones. 26 \(4\): 705-20.](#)

<b>Storage</b>	<p>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.</p> <p>Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.</p>
<b>Guarantee</b>	12 months from date of despatch
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA5656">https://www.bio-rad-antibodies.com/SDS/MCA5656</a> 10040
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...) [RPE](#)

Rabbit Anti Mouse IgG (STAR9...) [FITC](#)

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets)  
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