# Datasheet: MCA5778 BATCH NUMBER 0411R

Description:	MOUSE ANTI BOVINE CD28
Specificity:	CD28
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	CC220
Isotype:	lgG1
Quantity:	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 <u>www.bio-rad-antibodies.com/protocols</u> .					
		Yes	No	Not Determined	Suggested Dilution	
	Flow Cytometry	•				
	Functional Assays	•				
	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					
Product Form	Purified IgG - liquid					
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 <sub>3</sub> )					
Carrier Free	Yes					
Approx. Protein Concentrations	IgG concentration 1.0 m	g/ml				

Immunogen	Plasmid DNA encoding the bovine CD28 gene.
External Database Links	UniProt: <u>Q28071</u> <u>Related reagents</u> Entrez Gene: <u>281050</u> CD28 <u>Related reagents</u>
RRID	AB_10965063
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the SP2/0 myeloma cell line.
Specificity	<b>Mouse anti Bovine CD28, clone CC220</b> recognizes the bovine homologue of human CD28, a co-stimulatory cell surface molecule expressed by T cell subsets. CD28 is the receptor for CD80 (B7.1) and CD86 (B7.2). Mouse anti Bovine CD28, clone CC220 is able to stimulate bovine T lymphocytes in combination with anti-bovine CD3 ( <u>Nishimori <i>et al.</i></u> 2017).
	For functional use, the use of the preservative free format ( <u>MCA5778EL</u> ) is recommended. Mouse anti Bovine CD28, clone CC220 has also been published under the alternative designation F849CD10 ( <u>Hogg <i>et al.</i> 2011</u> & <u>Guzman <i>et al.</i> 2014</u> ).
Flow Cytometry	Use 10ul of the suggested working dilution to label $1 \times 10^6$ cells in 100ul.
References	<ol> <li>Hogg, A.E. <i>et al.</i> (2011) Characterization of age-related changes in bovine CD8+ T-cells. <u>Vet Immunol Immunopathol. 140 (1-2): 47-54.</u></li> <li>Goto, S. <i>et al.</i> (2017) Increase of cells expressing PD-1 and PD-L1 and enhancement of IFN-γ production via PD-1/PD-L1 blockade in bovine mycoplasmosis. <u>Immun Inflamm Dis. 5 (3): 355-363.</u></li> <li>Nishimori, A. <i>et al.</i> (2017) <i>In vitro</i> and <i>in vivo</i> antivirus activity of an anti-programmed death-ligand 1 (PD-L1) rat-bovine chimeric antibody against bovine leukemia virus infection. <u>PLoS One. 12 (4): e0174916.</u></li> <li>Cunha, P. <i>et al.</i> (2019) Expansion, isolation and first characterization of bovine Th17 lymphocytes. <u>Sci Rep. 9 (1): 16115.</u></li> </ol>
Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA5778 10040
Regulatory	For research purposes only

## **Related Products**

### **Recommended Secondary Antibodies**

	DDE				
Rabbit Anti Mouse IgG (STAR12)	RPE				
Goat Anti Mouse IgG IgA IgM (STAR87.	) <u>HRP</u>				
Goat Anti Mouse IgG (STAR76)	RPE				
Rabbit Anti Mouse IgG (STAR13)	HRP				
Goat Anti Mouse IgG (STAR70)	<u>FITC</u>				
Goat Anti Mouse IgG (H/L) (STAR117)	<u>Alk. Phos., DyLight®488, DyLight®550,</u>				
	DyLight®650, DyLight®680, DyLight®800	<u>D</u> ,			
	<u>FITC</u> , <u>HRP</u>				
Rabbit Anti Mouse IgG (STAR9)	<u>FITC</u>				
Goat Anti Mouse IgG (STAR77) <u>HRP</u>					
Goat Anti Mouse IgG (Fc) (STAR120) <u>FITC</u> , <u>HRP</u>					
<b>Recommended Negative Controls</b>					
MOUSE IgG1 NEGATIVE CONTROL (MCAS	287				
MOUSE IN THEGATIVE CONTROL (MCA	20)				
North & South Tel: +1 800 265 7376 Worldv	ride Tel: +44 (0)1865 852 700 Europe	Tel: +49 (0) 89 8090 95 21			
America Fax: +1 919 878 3751	Fax: +44 (0)1865 852 739	Fax: +49 (0) 89 8090 95 50			
Email: antibody_sales_us@bio-rad.com	Email: antibody_sales_uk@bio-rad.com	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					
M368380:200529'					

#### Printed on 19 Jan 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint