

Datasheet: MCA2371

Description:	MOUSE ANTI BOVINE INTERLEUKIN-4
Specificity:	IL-4
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	CC313
Isotype:	IgG2a
Quantity:	0.5 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.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA	▪			2ug/ml - 5ug/ml
Immunoprecipitation			▪	
Western Blotting			▪	

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: Sheep, Goat

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 - 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 ₃)
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Recombinant bovine IL-4.
External Database Links	<p>UniProt: P30367 Related reagents</p> <p>Entrez Gene: 280824 IL4 Related reagents</p>
RRID	AB_2249178
Fusion Partners	Spleen cells from immunized BALB/c mice were fused with cells of the SP2/0 myeloma cell line.
Specificity	<p>Mouse anti Bovine interleukin-4, clone CC313 is specific for bovine interleukin 4 (IL-4), also known as B-cell stimulatory factor 1. Bovine interleukin-4 is a 15 kDa, 135 amino acid peptide which is processed to a mature secreted form with the cleavage of a 24 amino acid, N-terminal signal peptide resulting in a 12.6 kDa active cytokine, the apparent MW may be altered by glycosylation (Heussler et al. 1992).</p> <p>IL-4 is expressed by a range of cells including T and B cells, macrophages and monocytes. It plays an important role in the regulation of bovine T and B cell responses.</p> <p>Mouse anti Bovine interleukin-4, clone CC313 has been used successfully as a coating antibody in a sandwich ELISA with biotinylated Mouse anti Bovine IL-4 antibody, clone CC314 (MCA2372B) as a detection reagent both with bovine (Stabel et al. 2011) and ovine samples (Olivier et al. 2012). Clones CC313 and CC314 have been used in the reverse configuration for the measurement of interleukin-4 in caprine samples (Marinero et al. 2012).</p>
Flow Cytometry	Use 10µl of the suggested working dilution to label 10 ⁶ cells in 100µl
ELISA	Mouse anti Bovine interleukin-4 antibody, clone CC313 may be used as a capture antibody in sandwich ELISA assays for bovine IL-4 in combination with MCA2372B as a detection reagent, and recombinant bovine IL-4 (PBP006) as a standard.
References	<ol style="list-style-type: none"> Hope, J.C. <i>et al.</i> (2005) Development of detection methods for ruminant interleukin (IL)-4. J Immunol Methods. 301 (1-2): 114-23. Abbott, J.R. <i>et al.</i> (2005) Rapid and long-term disappearance of CD4+ T lymphocyte responses specific for <i>Anaplasma marginale</i> major surface protein-2 (MSP2) in MSP2

- vaccinates following challenge with live *A. marginale*. [J Immunol. 174 \(11\): 6702-15.](#)
3. Sipka, A. *et al.* (2013) Prednisolone and cefapirin act synergistically in resolving experimental *Escherichia coli* mastitis [J Dairy Sci. 96: 4406-18.](#)
 4. Stabel, J.R. *et al.* (2013) Disparate Host Immunity to *Mycobacterium avium* subsp. paratuberculosis Antigens in Calves Inoculated with *M. avium* subsp. paratuberculosis, *M. avium* subsp. avium, *M. kansasii* and *M. bovis*. [Clin Vaccine Immunol. 20: 848-57.](#)
 5. Stabel, J.R. *et al.* (2011) Mediation of host immune responses after immunization of neonatal calves with a heat-killed *Mycobacterium avium* subsp. *paratuberculosis* vaccine. [Clin Vaccine Immunol. 18: 2079-89.](#)
 6. Dacal, V. *et al.* (2009) Local and systemic cytokine responses during larval penetration in cattle experimentally infested with *Hypoderma lineatum* (Diptera: Oestridae). [Vet Immunol Immunopathol. 131: 59-64.](#)
 7. Olivier, M. *et al.* (2012) Capacities of migrating CD1b+ lymph dendritic cells to present Salmonella antigens to naive T cells. [PLoS One. 7: e30430.](#)
 8. Marinaro, M. *et al.* (2012) Antigen-specific IFN-gamma and IL-4 production in caprine herpesvirus infected goats. [Res Vet Sci. 93: 662-7.](#)
 9. Panadero, R. *et al.* (2009) Immunomodulatory effect of *Hypoderma lineatum* antigens: in vitro effect on bovine lymphocyte proliferation and cytokine production. [Parasite Immunol. 31: 72-7.](#)
 10. Redondo, E. *et al.* (2014) Induction of interleukin-8 and interleukin-12 in neonatal ovine lung following experimental inoculation of bovine respiratory syncytial virus. [J Comp Pathol. 150 \(4\): 434-48.](#)
 11. Cassidy-Cain, R.L. *et al.* (2017) Inhibition of Antigen-Specific and Nonspecific Stimulation of Bovine T and B Cells by Lymphostatin from Attaching and Effacing *Escherichia coli*. [Infect Immun. 85 \(2\): pii: e00845-16. \[Epub ahead of print\]](#)
 12. Liravi, B. *et al.* (2015) Dynamics of IL-4 and IL-13 expression in the airways of sheep following allergen challenge. [BMC Pulm Med. 15: 101.](#)
 13. Rodrigues, V. *et al.* (2017) Development of a bead-based multiplexed assay for simultaneous quantification of five bovine cytokines by flow cytometry. [Cytometry A. 91 \(9\): 901-7.](#)
 14. Stabel, J.R. *et al.* (2021) Comparative cellular immune responses in calves after infection with *Mycobacterium avium*. subsp. *paratuberculosis*., *M. avium*. subsp. *avium*., *M. kansasii*. and *M. bovis*.. [Vet Immunol Immunopathol. 237: 110268.](#)

Storage	<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>
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/MCA2371 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®550 , DyLight®650 , DyLight®680 , DyLight®800 , FITC , HRP

Recommended Negative Controls

[MOUSE IgG2a NEGATIVE CONTROL \(MCA929\)](#)

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
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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
'M437785:250319'

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