

## Datasheet: MCA2372B

**BATCH NUMBER 158340**

<b>Description:</b>	MOUSE ANTI BOVINE INTERLEUKIN-4:Biotin
<b>Specificity:</b>	IL-4
<b>Format:</b>	Biotin
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	CC314
<b>Isotype:</b>	IgG2b
<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
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA	▪			1ug/ml - 5ug/ml
Immunoprecipitation			▪	
Western Blotting			▪	

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

#### Species Cross Reactivity

Reacts with: Goat, 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 Biotin - liquid

#### Preparation

Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide 1% Bovine Serum Albumin
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Recombinant bovine IL-4.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P30367</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">280824</a>    IL4    <a href="#">Related reagents</a></p>
<b>RRID</b>	AB_2127032
<b>Fusion Partners</b>	Spleen cells from immunised BALB/c mice were fused with cells of the SP2/0 myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Bovine interleukin-4 antibody, clone CC314</b> recognizes bovine interleukin-4 (IL-4), also known as B-cell stimulatory factor 1. 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. 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 (<a href="#">Heussler et al. 1992</a>).</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 CC314 has been used successfully as a detection antibody in a sandwich ELISA with Mouse anti Bovine IL-4 antibody, clone CC313 (<a href="#">MCA2371</a>) as a coating reagent both with bovine (<a href="#">Stabel et al. 2011</a>) and ovine samples (<a href="#">Olivier et al. 2012</a>). Clones CC313 and CC314 have been used in the reverse configuration for the measurement of interleukin-4 in caprine samples (<a href="#">Marinero et al. 2012</a>).</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label $1 \times 10^6$ cells in 100ul.
<b>ELISA</b>	This biotin conjugate may be used as detection reagent in sandwich ELISA assays for bovine IL-4 with <a href="#">MCA2371</a> as capture reagent, and recombinant bovine IL-4 ( <a href="#">PBP006</a> ) as a standard.
<b>References</b>	1. Hope, J.C. et al. (2005) Development of detection methods for ruminant interleukin (IL)-4. <a href="#">J Immunol Methods. 301 (1-2): 114-23.</a>

2. Abbott JR *et al.* (2005) Rapid and long-term disappearance of CD4+ T lymphocyte responses specific for Anaplasma marginale major surface protein-2 (MSP2) in MSP2 vaccinates following challenge with live *A. marginale*. [J Immunol. 174 \(11\): 6702-15.](#)
3. Stabel JR *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 \(6\): 848-57.](#)
4. 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.](#)
5. Marinaro, M. *et al.* (2012) Antigen-specific IFN-gamma and IL-4 production in caprine herpesvirus infected goats. [Res Vet Sci. 93: 662-7.](#)
6. Olivier, M. *et al.* (2012) Capacities of migrating CD1b+ lymph dendritic cells to present *Salmonella* antigens to naive T cells. [PLoS One. 7: e30430.](#)
7. Cassady-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. \[Epub ahead of print\]](#)
8. 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.](#)
9. 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.](#)

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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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**Health And Safety Information** Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2372B>  
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