

Datasheet: MCA1658

**BATCH NUMBER 161097**

<b>Description:</b>	MOUSE ANTI SHEEP INTERLEUKIN-1 BETA
<b>Specificity:</b>	IL-1 BETA
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	1D4
<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)	▪			1/10
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA	▪			
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.

**(1) Membrane permeabilisation is required for this application. Bio-Rad recommends the use of Leucoperm™ (Product Code [BUF09](#)) for this purpose.**

### Target Species

Sheep

### Species Cross Reactivity

Reacts with: Goat, Bovine, Horse

**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

<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	<0.1% Sodium Azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Recombinant ovine IL-1 Beta
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P21621</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">443539</a> IL-1B    <a href="#">Related reagents</a></p>
<b>RRID</b>	AB_322126
<b>Specificity</b>	<p><b>Mouse anti Sheep Interleukin-1 beta antibody, clone 1D4</b> recognizes ovine interleukin-1 beta, and shows no cross-reactivity with ovine IL-6, IL-8, TNF alpha or MCP-1.</p> <p>Mouse anti Sheep Interleukin-1 beta antibody, clone 1D4 demonstrates partial neutralizing activity of ovine IL-1 beta.</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 1x10 <sup>6</sup> cells in 100ul.
<b>ELISA</b>	<p>Mouse anti Interleukin-1 beta antibody, clone 1D4 may be used as a capture antibody in a bovine IL-1 beta sandwich ELISA together with Rabbit anti Bovine interleukin-1β antibody (<a href="#">AHP851B</a>) as the detection reagent for evaluation of IL-1β levels in bovine samples together with recombinant Bovine interleukin-1β (<a href="#">PBP008</a>) used as standards.</p> <p>Alternatively, Mouse anti Interleukin-1 beta antibody, clone 1D4 can be used as a capture reagent together with Rabbit anti Ovine interleukin-1β antibody (<a href="#">AHP423</a>) as a detection reagent for the evaluation of IL-1β levels in ovine, bovine or caprine samples, again utilizing recombinant bovine IL-1&amp;beta (<a href="#">PBP008</a>) as an internal standard.</p>
<b>References</b>	<ol style="list-style-type: none"> <li>Martoriati, A. &amp; Gérard, N. (2003) Interleukin-1 (IL-1) system gene expression in granulosa cells: kinetics during terminal preovulatory follicle maturation in the mare. <a href="#">Reprod Biol Endocrinol. 1: 42-51.</a></li> <li>Leite, F. <i>et al.</i> (2005) Incubation of bovine PMNs with conditioned medium from BHV-1 infected peripheral blood mononuclear cells increases their susceptibility to <i>Mannheimia haemolytica</i> leukotoxin. <a href="#">Vet Immunol Immunopathol. 103 (3-4): 187-93.</a></li> <li>Wenz, J.R. <i>et al.</i> (2010) Factors associated with concentrations of select cytokine and acute phase proteins in dairy cows with naturally occurring clinical mastitis. <a href="#">J Dairy Sci. 93: 2458-70.</a></li> <li>Rinaldi, M. <i>et al</i> (2010) A sentinel function for teat tissues in dairy cows: dominant innate immune response elements define early response to <i>E. coli</i> mastitis. <a href="#">Funct Integr Genomics. 10: 21-38.</a></li> </ol>

5. Bougarn, S. *et al.* (2010) Muramyl dipeptide synergizes with *Staphylococcus aureus* lipoteichoic acid to recruit neutrophils in the mammary gland and to stimulate mammary epithelial cells. [Clin Vaccine Immunol. 17 \(11\): 1797-809.](#)
6. Bannerman, D.D. *et al.* (2004) *Escherichia coli* and *Staphylococcus aureus* elicit differential innate immune responses following intramammary infection. [Clin Diagn Lab Immunol. 11: 463-72.](#)
7. Simojoki, H. *et al.* (2011) Innate immune response in experimentally induced bovine intramammary infection with *Staphylococcus simulans* and *S. epidermidis*. [Vet Res. 42: 49.](#)
8. 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.](#)
9. Karisnan K *et al.* (2015) Interleukin-1 Receptor Antagonist Protects against Lipopolysaccharide Induced Diaphragm Weakness in Preterm Lambs. [PLoS One. 10 \(4\): e0124390.](#)
10. Dernfalk, J. *et al.* (2007) The xMAP technique can be used for detection of the inflammatory cytokines IL-1beta, IL-6 and TNF-alpha in bovine samples. [Vet Immunol Immunopathol. 118 \(1-2\): 40-9.](#)
11. Bannerman, D.D. *et al.* (2004) Characterization of the bovine innate immune response to intramammary infection with *Klebsiella pneumoniae*. [J Dairy Sci. 87 \(8\): 2420-32.](#)
12. Jacobsen, S. *et al.* (2007) The cytokine response of circulating peripheral blood mononuclear cells is changed after intravenous injection of lipopolysaccharide in cattle. [Vet J. 174 \(1\): 170-5.](#)
13. Cox, R.A. *et al.* (2007) Production of pro-inflammatory polypeptides by airway mucous glands and its potential significance. [Pulm Pharmacol Ther. 20 \(2\): 172-7.](#)
14. Matthews, K. *et al.* (2007) The effect of gene gun-delivered pGM-CSF on the immunopathology of the vaccinated skin. [Scand J Immunol. 65 \(3\): 298-307.](#)
15. Rainard P *et al.* (2008) *Staphylococcus aureus* lipoteichoic acid triggers inflammation in the lactating bovine mammary gland. [Vet Res. 39 \(5\): 52.](#)
16. Doull, L. *et al.* (2015) Late production of CXCL8 in ruminant oro-nasal turbinate cells in response to *Chlamydia abortus* infection. [Vet Immunol Immunopathol. 168 \(1-2\): 97-102.](#)
17. Xu, A. *et al.* (2015) The Ovine Fetal and Placental Inflammatory Response to Umbilical Cord Occlusions With Worsening Acidosis. [Reprod Sci. 22 \(11\): 1409-20.](#)
18. Sobotta, K. *et al.* (2016) *Coxiella burnetii*. Infects Primary Bovine Macrophages and Limits Their Host Cell Response. [Infect Immun. 84 \(6\): 1722-34.](#)
19. Cortes, M. *et al.* (2017) RNAseq profiling of primary microglia and astrocyte cultures in near-term ovine fetus: A glial *in vivo-in vitro* multi-hit paradigm in large mammalian brain. [J Neurosci Methods. 276: 23-32.](#)
20. Canal AM *et al.* (2017) Immunohistochemical detection of pro-inflammatory and anti-inflammatory cytokines in granulomas in cattle with natural *Mycobacterium bovis* infection. [Res Vet Sci. 110: 34-39.](#)
21. Cao, M. *et al.* (2019)  $\alpha 7$  Nicotinic Acetylcholine Receptor Signaling Modulates Ovine Fetal Brain Astrocytes Transcriptome in Response to Endotoxin. [Front Immunol. 10: 1063.](#)
22. Stassi, A.F. *et al.* (2019) Follicular structures of cows with cystic ovarian disease present altered expression of cytokines. [Zygote. 15: 1-14.](#)
23. Ciliberti, M.G. *et al.* (2022) Green extraction of bioactive compounds from wine lees and their bio-responses on immune modulation using *in vitro*. sheep model. [J Dairy Sci.](#)

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24. Damiano, S. *et al.* (2022) Red orange and lemon extract preserve from oxidative stress, DNA damage and inflammatory status in lambs [It J Anim Sci. 21 \(1\): 934-42.](#)

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**Further Reading** 1. Rothel, J.S. *et al.* (1997) Analysis of ovine IL-1 beta production *in vivo* and *in vitro* by enzyme immunoassay and immunohistochemistry. [Vet Immunol Immunopathol. 57 \(3-4\): 267-78.](#)

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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 #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1658>  
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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

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

Goat Anti Mouse IgG (H/L) (STAR117...) [FITC](#)

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

Rabbit Anti Mouse IgG (STAR13...) [HRP](#)

### Recommended Negative Controls

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

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

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Email: [antibody\\_sales\\_us@bio-rad.com](mailto:antibody_sales_us@bio-rad.com)

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