

## Datasheet: MCA1998S

**BATCH NUMBER 170791**

<b>Description:</b>	MOUSE ANTI DOG CD4
<b>Specificity:</b>	CD4
<b>Format:</b>	S/N
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	CA13.1E4
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	2 ml

### 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	▪			Neat
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			

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>	Dog
<b>Product Form</b>	Tissue culture supernatant - liquid
<b>Preservative Stabilisers</b>	< 0.1% sodium azide (NaN <sub>3</sub> )
<b>Immunogen</b>	Canine Thymocytes
<b>External Database Links</b>	<b>UniProt:</b> <a href="#">P33705</a> <a href="#">Related reagents</a>  <b>Entrez Gene:</b>

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<b>RRID</b>	AB_2077610
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<b>Fusion Partners</b>	Spleen cells from immunised Balb/c mice were fused with cells of the P3X63-Ag.653 mouse myeloma cell line.
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<b>Specificity</b>	<p><b>Mouse anti Dog CD4 antibody (CA13.1E4)</b>, a monoclonal antibody specific for canine CD4. CA13.1E4 was clustered at the first Canine Leukocyte Antigen Workshop (Claw) [<a href="#">Cobbold et al. 1992</a> ] and identifies, by immunoprecipitation a ~60 kDa monomeric protein under both reducing and non-reducing conditions. Canine CD4 is a surface glycoprotein expressed by non CD8 expressing T lymphocytes, with similar developmental and functional characteristics to T helper cells described in other mammalian species. Mouse anti Dog CD4 also recognizes a population of CD8 positive cells in the canine thymus (<a href="#">Moore et al. 1992</a>).</p> <p>CD4 expression has also been reported on a population of CD3 positive peripheral blood T lymphocytes which are double positive for CD4 and CD8 (<a href="#">Bismarck et al. 2012</a> ). Similar reports have been made for cynomolgus monkey (<a href="#">Nam et al. 2000</a>), pig (<a href="#">Saalmuller et al. 1987</a> , <a href="#">Pescowitz et al. 1990</a>) as well as rat, chicken and human (reviewed <a href="#">Zuckermann 1999</a> ).</p> <p>Uniquely amongst mammalian species clone CA13.1E4 also recognizes CD4 expressed on canine neutrophils at a similar density to that expressed on canine T helper cells. The functional significance of this is not understood and remains enigmatic in view of the roles described for CD4 in canine and other mammalian species (<a href="#">Moore et al. 1992</a>).</p> <p>Clone CA13.1E4 also demonstrates immunohistological staining of splenic marginal zone macrophages (<a href="#">Moore et al. 1992</a>). Other macrophage populations, such as splenic red pulp macrophages and Langerhans cells do not stain with clone CA13.1E4. Canine CD4 positive T cells can be further characterized according to their simultaneous expression of CD45RA as recognized by Rat anti Canine anti CD45RA clone <a href="#">CA4.1D3</a> in a manner analogous to that seen with human T cells (<a href="#">Moore et al. 1992</a>).</p> <p>Clone CA13.1E4 has been used amongst a large panel of anti-canine monoclonal antibodies for the study of various lymphoproliferative diseases. T lymphocytes in large granular lymphocyte (LGL) lymphocytosis are negative for CD4 (<a href="#">McDonough and Moore 2000</a> ). Dogs with chronic myelogenous leukemia demonstrate CD4 positive staining on neutrophils (<a href="#">Tarrant et al. 2001</a>). CD4 expression varies considerably between various canine leukemias.</p>
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<b>Flow Cytometry</b>	Use 25µl of the suggested working dilution to label 10 <sup>6</sup> cells or 100µl whole blood
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<b>Histology Positive Control Tissue</b>	Canine spleen or lymph node
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<b>References</b>	1. Moore, P.F. <i>et al.</i> (1992) Monoclonal antibodies specific for canine CD4 and CD8 define functional T-lymphocyte subsets and high-density expression of CD4 by canine
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- neutrophils. [Tissue Antigens 40\(2\): 75-85.](#)
2. Cobbold, S. & Metcalfe, S. (1994) Monoclonal antibodies that define canine homologues of human CD antigens: summary of the First International Canine Leukocyte Antigen Workshop (CLAW). [Tissue Antigens. 43 \(3\): 137-54.](#)
  3. Veenhof, E.Z. *et al.* (2011) Characterisation of T cell phenotypes, cytokines and transcription factors in the skin of dogs with cutaneous adverse food reactions. [Vet J. 187 \(3\): 320-4.](#)
  4. Izci C *et al.* (2015) Clinical and light microscopic studies of the conjunctival tissues of dogs with bilateral keratoconjunctivitis sicca before and after treatment with topical 2% cyclosporine. [Biotech Histochem. 90 \(3\): 223-30.](#)
  5. Ricklin, M.E. *et al.* (2010) Characterization of canine dendritic cells in healthy, atopic, and non-allergic inflamed skin. [J Clin Immunol. 30 \(6\): 845-54.](#)
  6. Wijewardana, V. *et al.* (2013) Production of canine soluble CD40 ligand to induce maturation of monocyte derived dendritic cells for cancer immunotherapy. [Vet Immunol Immunopathol. 156 \(1-2\): 121-7.](#)
  7. Kamiie, J. *et al.* (2014) Quantitative analysis of CD3ε in a cloned canine lymphoma cell line by selected reaction monitoring assay. [Biosci Biotechnol Biochem. 78 \(2\): 271-5.](#)
  8. Heinrich, F. *et al.* (2015) Immunophenotyping of immune cell populations in the raccoon (*Procyon lotor*). [Vet Immunol Immunopathol. 168 \(3-4\): 140-6.](#)
  9. Yuasa, K. *et al.* (2007) Injection of a recombinant AAV serotype 2 into canine skeletal muscles evokes strong immune responses against transgene products. [Gene Ther. 14 \(17\): 1249-60.](#)
  10. Lin, S. *et al.* (2015) IMMUNE CHARACTERIZATION OF PERIPHERAL BLOOD MONONUCLEAR CELLS OF THE DOGS RESTORED FROM INOCULATION OF CANINE TRANSMISSIBLE VENEREAL TUMOR CELLS [Taiwan Veterinary Journal. 40 \(04\): 181-90.](#)
  11. Constantinoiu, C.C. *et al.* (2015) Mucosal tolerance of the hookworm *Ancylostoma caninum* in the gut of naturally infected wild dogs. [Parasite Immunol. 37 \(10\): 510-520.](#)
  12. Lin, C.S. *et al.* (2018) Activating natural killer (NK) cytotoxicity of canine CD5<sup>+</sup>CD21<sup>-</sup> cells requires low surface CD5 density NK cells. [Iran J Vet Res. 19 \(2\): 87-95.](#)
  13. Bertolo, P.H.L. *et al.* (2022) Influence of serum progesterone levels on the inflammatory response of female dogs with visceral leishmaniasis. [Vet Parasitol. 302: 109658.](#)
  14. Troupel, T. *et al.* (2022) Generalised idiopathic polymyositis mimicking masticatory myositis in a dog [Veterinary Record Case Reports. 10 \(4\) e452.](#)
  15. Anthonyraj, S. *et al.* (2024) Chicory root powder included as a prebiotic in different cereal-based diets for dogs: Influences on gut health, metabolic and immunological status [Bioactive Carbohydrates and Dietary Fibre. : 100414.](#)
  16. Miguelena Chamorro, B. *et al.* (2023) Characterization of Canine Peyer's Patches by Multidimensional Analysis: Insights from Immunofluorescence, Flow Cytometry, and Single-Cell RNA Sequencing. [Immunohorizons. 7 \(11\): 788-805.](#)
  17. Mushati, K.A. *et al.* (2026) Modulation of uterine responses in dogs: The divergent effects of semen and embryonal signals on steroidogenic receptors and selected immune system-related factors. [Theriogenology. 250: 117644.](#)

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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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<b>Guarantee</b>	12 months from date of despatch
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10336 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA1998S">https://www.bio-rad-antibodies.com/SDS/MCA1998S</a>
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Secondary Antibodies

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

### Recommended Negative Controls

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

**Product inquiries:** [www.bio-rad-antibodies.com/technical-support](http://www.bio-rad-antibodies.com/technical-support)

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](http://bio-rad-antibodies.com/datasheets)  
'M418610:230427'

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