

Datasheet: MCA1783B BATCH NUMBER 150896C

Description:	MOUSE ANTI BOVINE INTERFERON GAMMA:Biotin	
Specificity:	IFN GAMMA	
Other names:	INTERFERON GAMMA	
Format:	Biotin	
Product Type:	Monoclonal Antibody	
Clone:	CC302	
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 www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Immunohistology - Frozen				
Immunohistology - Paraffin			•	
ELISA	•			5ug/ml
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. 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: Human, Pig, Dog, Horse, Sheep, Goat, Dolphin, Ferret, Mink, Fin Whale, Rabbit Based on sequence similarity, is expected to react with:Mustelid 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 G from tissue culture

	·
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide
Approx. Protein Concentrations	IgG concentration 0.5 mg/ml
External Database Links	UniProt: P07353 Related reagents
	Entrez Gene: 281237 IFNG Related reagents
RRID	AB_324374
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the mouse SP2/0 myeloma cell line.
Specificity	Mouse anti Bovine IFNγ antibody, clone CC302, recognizes bovine interferon-gamma, a 143 amino acid cytokine with potent activating, antiviral and anti proliferative properties, produced as a pro-peptide with an additional 23 amino acid N-terminal signal peptide sequence having a molecular weight of ~20 kDa. IFNγ is predominantly secreted by activated T lymphocytes in response to specific mitogens as a result of infection (Rhodes et al. 2000).
	Mouse anti bovine γ interferon antibody, clone CC302 has been demonstrated to be reactive to a number of mammalian species including human, sheep, dog, pig, goat and mink (Pedersen et al. 2002). Mouse anti Bovine IFN γ antibody, clone CC302 has been used successfully for the evaluation of γ interferon levels in the sera of calves naturally infected with M . avium. subsp paratuberculosis (Appana et al. 2013) as a detection reagent using an ELISA.
Flow Cytometry	Use 10ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul.
ELISA	Biotinylated mouse anti bovine IFNy, clone CC302, may be used as the detection reagent in a sandwich ELISA with <u>purified mouse anti bovine IFNy</u> , clone CC330, as the capture reagent and <u>recombinant bovine IFNy</u> as the standard.
References	 Hasvold, H.J. <i>et al.</i> (2002) <i>In vitro</i> responses to purified protein derivate of caprine T lymphocytes following vaccination with live strains of <i>Mycobacterium avium</i> subsp <i>paratuberculosis</i>. <u>Vet Immunol Immunopathol. 90 (1-2): 79-89.</u> Mwangi, W. <i>et al.</i> (2002) DNA-encoded fetal liver tyrosine kinase 3 ligand and granulocyte macrophage-colony-stimulating factor increase dendritic cell recruitment to the inoculation site and enhance antigen-specific CD4⁺ T cell responses induced by DNA vaccination of outbred animals. <u>J Immunol. 169 (7): 3837-46.</u>

- 3. Pedersen, L.G. *et al.* (2002) Identification of monoclonal antibodies that cross-react with cytokines from different animal species. Vet Immunol Immunopathol. 88 (3-4): 111-22.
- 4. Aasted, B. *et al.* (2002) Cytokine profiles in peripheral blood mononuclear cells and lymph node cells from piglets infected in utero with porcine reproductive and respiratory syndrome virus. Clin Diagn Lab Immunol. 9 (6): 1229-34.
- 5. Nielsen, L. *et al.* (2009) Lymphotropism and host responses during acute wild-type canine distemper virus infections in a highly susceptible natural host. <u>J Gen Virol. 90:</u> 2157-65.
- 6. Jaber, J.R. *et al.* (2010) Cross-reactivity of anti-human, anti-porcine and anti-bovine cytokine antibodies with cetacean tissues. <u>J Comp Pathol. 143: 45-51.</u>
- 7. Martel, C.J. & Aasted, B. (2009) Characterization of antibodies against ferret immunoglobulins, cytokines and CD markers. <u>Vet Immunol Immunopathol. 132:109-15.</u>
- 8. Sow, F.B. *et al.* (2011) Respiratory syncytial virus is associated with an inflammatory response in lungs and architectural remodeling of lung-draining lymph nodes of newborn lambs. <u>Am J Physiol Lung Cell Mol Physiol.</u> 300 (1): L12-24.
- 9. Ferret-Bernard, S. *et al.* (2011) Mesenteric lymph node cells from neonates present a prominent IL-12 response to CpG oligodeoxynucleotide via an IL-15 feedback loop of amplification. <u>Vet Res. 42:19.</u>
- 10. Lybeck, K.R. *et al.* (2009) Neutralization of interleukin-10 from CD14(+) monocytes enhances gamma interferon production in peripheral blood mononuclear cells from *Mycobacterium avium* subsp. *paratuberculosis*-infected goats. Clin Vaccine Immunol. 16 (7): 1003-11.
- 11. Contreras, V. *et al.* (2010) Existence of CD8 α -like dendritic cells with a conserved functional specialization and a common molecular signature in distant mammalian species. J Immunol. 185: 3313-25.
- 12. Fellman, C.L. *et al.* (2011) Cyclosporine A affects the *in vitro* expression of T cell activation-related molecules and cytokines in dogs. <u>Vet Immunol Immunopathol. 140: 175-80.</u>
- 13. Pillet, S. *et al.* (2011) Cellular immune response in the presence of protective antibody levels correlates with protection against 1918 influenza in ferrets. <u>Vaccine. 29 (39):</u> 6793-801.
- 14. Jensen, T.H. *et al.* (2009) Early life DNA vaccination with the H gene of Canine distemper virus induces robust protection against distemper. <u>Vaccine</u>. 27: 5178-83.
- 15. Skyberg, J.A. *et al.* (2011) Murine and bovine γδ T cells enhance innate immunity against *Brucella abortus* infections. <u>PLoS One. 6:e21978.</u>
- 16. Whelan, A.O. *et al.* (2011) Development of an Antibody to Bovine IL-2 Reveals Multifunctional CD4 T(EM) Cells in Cattle Naturally Infected with Bovine Tuberculosis. <u>PLoS One. 6: e29194.</u>
- 17. Costa-Pereira, C. *et al.* (2015) One-year timeline kinetics of cytokine-mediated cellular immunity in dogs vaccinated against visceral leishmaniasis. <u>BMC Vet Res. 11 (1): 92.</u>
- 18. Summers, C. *et al.* (2012) The distribution of immune cells in the lungs of classical and atypical ovine pulmonary adenocarcinoma. <u>Vet Immunol Immunopathol. 146: 1-7.</u>
- 19. Maślanka T *et al.* (2012) The presence of CD25 on bovine WC1+ γδ T cells is positively correlated with their production of IL-10 and TGF-β, but not IFN-γ. <u>Pol J Vet Sci.</u> 15 (1): 11-20.
- 20. Duncombe, L. *et al.* (2013) Investigating the Use of Protein Saver Cards for Storage and Subsequent Detection of Bovine Anti-*Brucella abortus* Smooth Lipopolysaccharide

- Antibodies and Gamma Interferon. Clin Vaccine Immunol. 20: 1669-74.
- 21. Verhelst, D. *et al.* (2014) Parasite distribution and associated immune response during the acute phase of *Toxoplasma gondii* infection in sheep. <u>BMC Vet Res. 2014 Dec</u> 16;10(1):293.
- 22. Köhler. H, *et al.* (2015) Characterization of a caprine model for the subclinical initial phase of *Mycobacterium avium* subsp. paratuberculosis infection <u>BMC Veterinary</u> <u>Research. 11 (1): 74.</u>
- 23. Moreira, M.L. *et al.* (2016) Vaccination against canine leishmaniosis increases the phagocytic activity, nitric oxide production and expression of cell activation/migration molecules in neutrophils and monocytes. <u>Vet Parasitol. 220: 33-45.</u>
- 24. Rodríguez-Gómez IM *et al.* (2016) Expression of T-bet, Eomesodermin and GATA-3 in porcine αβ T cells. <u>Dev Comp Immunol. 60: 115-26.</u>
- 25. Taylor, G. *et al.* (2015) Efficacy of a virus-vectored vaccine against human and bovine respiratory syncytial virus infections. Sci Transl Med. 7 (300): 300ra127.
- 26. Moreira, M.L. *et al.* (2015) Cross-reactivity of commercially available anti-human monoclonal antibodies with canine cytokines: establishment of a reliable panel to detect the functional profile of peripheral blood lymphocytes by intracytoplasmic staining. <u>Acta Vet Scand.</u> 57: 51.
- 27. El-Naggar, M.M. *et al.* (2015) Development of an improved ESAT-6 and CFP-10 peptide-based cytokine flow cytometric assay for bovine tuberculosis. <u>Comp Immunol Microbiol Infect Dis. 42</u>: 1-7.
- 28. McGill, J.L. *et al.* (2016) Vaccination with an Attenuated Mutant of *Ehrlichia chaffeensis* Induces Pathogen-Specific CD4+ T Cell Immunity and Protection from Tick-Transmitted Wild-Type Challenge in the Canine Host. PLoS One. 11 (2): e0148229.
- 29. Vida, B. *et al.* (2016) Immunologic progression of canine leishmaniosis following vertical transmission in United States dogs. <u>Vet Immunol Immunopathol. 169: 34-8.</u>
- 30. Totté, P. *et al.* (2010) CD62L defines a subset of pathogen-specific bovine CD4 with central memory cell characteristics. <u>Dev Comp Immunol</u>. 34 (2): 177-82.
- 31. Sun, L. *et al.* (2012) The role of proliferation in the regulation of interferon gamma (IFNy) expression in foals. <u>Dev Comp Immunol</u>. 36 (3): 534-9.
- 32. Reber, A.J. *et al.* (2006) Evaluation of multiple immune parameters after vaccination with modified live or killed bovine viral diarrhea virus vaccines. <u>Comp Immunol Microbiol Infect Dis.</u> 29 (1): 61-77.
- 33. Katepalli, M.P. *et al.* (2008) The effect of age and telomere length on immune function in the horse. <u>Dev Comp Immunol.</u> 32 (12): 1409-15.
- 34. Hansen, S. *et al.* (2013) Age-related changes in intracellular expression of IFN-γ and TNF-α in equine lymphocytes measured in bronchoalveolar lavage and peripheral blood. Dev Comp Immunol. 39 (3): 228-33.
- 35. Boshra H *et al.* (2015) A lumpy skin disease virus deficient of an IL-10 gene homologue provides protective immunity against virulent capripoxvirus challenge in sheep and goats. <u>Antiviral Res. 123: 39-49.</u>
- 36. Hedges, J.F. *et al.* (2015) Amphotericin B stimulates $\gamma\delta$ T and NK cells, and enhances protection from *Salmonella* infection. <u>Innate Immun. 21 (6): 598-608.</u>
- 37. Johnson, W.C. *et al.* (2008) Bovine WC1(-) gammadeltaT cells incubated with IL-15 express the natural cytotoxicity receptor CD335 (NKp46) and produce IFN-gamma in response to exogenous IL-12 and IL-18. <u>Dev Comp Immunol. 32 (8): 1002-10.</u>
- 38. Dewals, B.G., et al.I (2011) Malignant catarrhal fever induced by Alcelaphine

herpesvirus 1 is characterized by an expansion of activated CD3+CD8+CD4- T cells expressing a cytotoxic phenotype in both lymphoid and non-lymphoid tissues <u>Vet Res.</u> 42(1): 95.

- 39. Maggioli, M.F. *et al.* (2016) Increased TNF-α/IFN-γ/IL-2 and Decreased TNF-α/IFN-γ Production by Central Memory T Cells Are Associated with Protective Responses against Bovine Tuberculosis Following BCG Vaccination. Front Immunol. 7: 421.
- 40. 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)Jan 26 [Epub ahead of print].
- 41. Wattegedera, S.R. *et al.* (2017) Enhancing the toolbox to study IL-17A in cattle and sheep. Vet Res. 48 (1): 20.
- 42. DaSilva, A.V.A. *et al.* (2018) Morphophysiological changes in the splenic extracellular matrix of *Leishmania infantum*-naturally infected dogs is associated with alterations in lymphoid niches and the CD4+ T cell frequency in spleens. <u>PLoS Negl Trop Dis. 12 (4):</u> e0006445.
- 43. Higgins, J.L. *et al.* (2018) Cell mediated immune response in goats after experimental challenge with the virulent *Brucella melitensis* strain 16M and the reduced virulence strain Rev. 1. Vet Immunol Immunopathol. 202: 74-84.
- 44. Roos, E.O. *et al.* (2018) IP-10: A potential biomarker for detection of Mycobacterium bovis infection in warthogs (*Phacochoerus africanus*). <u>Vet Immunol Immunopathol. 201:</u> 43-8.
- 45. Aguiar-Soares, R.D.O. *et al.* (2020) Phase I and II Clinical Trial Comparing the LBSap, Leishmune[®], and Leish-Tec[®] Vaccines against Canine Visceral Leishmaniasis. <u>Vaccines</u> (Basel). 8 (4)Nov 17 [Epub ahead of print].
- 46. Fedorka, C.E. *et al.* (2019) Alteration of the mare's immune system by the synthetic progestin, altrenogest. Am J Reprod Immunol. 82 (2): e13145.
- 47. Lacasta, A. *et al.* (2021) Synergistic Effect of Two Nanotechnologies Enhances the Protective Capacity of the *Theileria parva* Sporozoite p67C Antigen in Cattle. <u>J Immunol. Jan 08 [Epub ahead of print].</u>
- 48. Arrieta-Villegas, C. *et al.* (2020) Immunogenicity and Protection against *Mycobacterium caprae* Challenge in Goats Vaccinated with BCG and Revaccinated after One Year. <u>Vaccines (Basel). 8 (4): 751.</u>

Further Reading

1. Rhodes, S. *et al.* (2000) Distinct response kinetics of gamma interferon and interleukin-4 in bovine tuberculosis. Infect Immun. 68:5393-400.

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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/MCA1783B

10040

Regulatory For research purposes only

 North & South
 Tel: +1 800 265 7376
 Worldwide
 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

 $\textbf{Email: antibody_sales_us@bio-rad.com} \\ \textbf{Email: antibody_sales_uk@bio-rad.com} \\ \textbf{Email: antibody_sales_uk@b$

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets 'M365727:200529'

Printed on 20 Mar 2024

© 2024 Bio-Rad Laboratories Inc | Legal | Imprint