

Datasheet: MCA1218F

Description:	MOUSE ANTI PIG CD14:FITC
Specificity:	CD14
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	MIL2
Isotype:	IgG2b
Quantity:	0.1 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	■			

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	Pig								
Species Cross Reactivity	Reacts with: Human N.B. Antibody reactivity and working conditions may vary between species.								
Product Form	Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid								
Max Ex/Em	<table><tr><th>Fluorophore</th><th>Excitation Max (nm)</th><th>Emission Max (nm)</th></tr><tr><td>FITC</td><td>490</td><td>525</td></tr></table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	FITC	490	525		
Fluorophore	Excitation Max (nm)	Emission Max (nm)							
FITC	490	525							
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant								
Buffer Solution	Phosphate buffered saline								
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃) 1% Bovine Serum Albumin								
Approx. Protein Concentrations	IgG concentration 0.1mg/ml.								
Immunogen	Porcine peripheral blood lymphocytes.								
External Database Links	UniProt:								

Fusion Partners	Spleen cells from immunized Balb/c mice were fused with cells from the P2-X63-Ag.653 mouse myeloma.
Specificity	Mouse anti Pig CD14, clone MIL2 recognizes porcine CD14. Clone MIL2 was clustered as porcine CD14 at the Third International Workshop on Swine Leukocyte Differentiation Antigens (Haverson et al. 2001) . Mouse anti Pig CD14, clone MIL2 immunoprecipitates a protein of ~50 kDa consistent with the expected apparent molecular weight of porcine CD14, and demonstrates the expected CD14 profile by dual labelling and competition studies. Further, pre-incubation of peripheral blood monocytes with MIL2 inhibits the binding of FITC labelled LPS, consistent with masking the CD14 LPS binding site (Thacker et al. 2001) . Mouse anti pig CD14, clone MIL2 demonstrates staining of both monocytes and neutrophils in peripheral blood by flow cytometry with a similar expression pattern to the anti human CD14 clone TüK4, lymphocytes and eosinophils are negative for MIL2 staining (Zelnickova et al. 2007). Cloning and characterization of porcine CD14 indicates a high degree of both functional and structural conservation when compared to CD14 from other mammalian species, the gene maps to chromosome 2 and is expressed on a wide range of tissues in a manner consistent with expression on myeloid cells. (Petersen et al. 2007, Sanz et al. 2007).
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	1. Hauet, T. et al. (2000) Trimetazidine reduces renal dysfunction by limiting the cold ischemia/reperfusion injury in autotransplanted pig kidneys. J Am Soc Nephrol. 11: 138-48. 2. Thacker, E. et al. (2001) Summary of workshop findings for porcine myelomonocytic markers. Vet Immunol Immunopathol. 80 (1-2): 93-109. 3. Singleton, H. et al. (2016) Establishing Porcine Monocyte-Derived Macrophage and Dendritic Cell Systems for Studying the Interaction with PRRSV-1. Front Microbiol. 7: 832. 4. Thorgersen, E.B. et al. (2010) CD14 inhibition efficiently attenuates early inflammatory and hemostatic responses in <i>Escherichia coli</i> sepsis in pigs. FASEB J. 24: 712-22. 5. Goujon, J.M. et al. (2000) Influence of cold-storage conditions on renal function of autotransplanted large pig kidneys. Kidney Int. 58: 838-50. 6. Li, Y. et al. (2014) Identification of apoptotic cells in the thymus of piglets infected with highly pathogenic porcine reproductive and respiratory syndrome virus. Virus Res. 189: 29-33. 7. Summerfield, A. et al. (2003) Porcine peripheral blood dendritic cells and natural interferon-producing cells. Immunology. 110: 440-9. 8. Vanderheijden, N. et al. (2003) Involvement of sialoadhesin in entry of porcine reproductive and respiratory syndrome virus into porcine alveolar macrophages. J Virol. 77: 8207-15. 9. Barratt-Due, A. et al. (2011) <i>Ornithodoros moubata</i> Complement Inhibitor Is an Equally Effective C5 Inhibitor in Pigs and Humans. J Immunol. 187: 4913-9. 10. Hauet, T. et al. (2002) Polyethylene glycol reduces the inflammatory injury due to cold ischemia/reperfusion in autotransplanted pig kidneys. Kidney Int. 62: 654-67. 11. Kapetanovic, R. et al. (2012) Pig bone marrow-derived macrophages resemble human macrophages in their response to bacterial lipopolysaccharide. J Immunol. 188: 3382-94. 12. Thorgersen, E.B. et al. (2009) Inhibition of complement and CD14 attenuates the <i>Escherichia coli</i>-induced inflammatory response in porcine whole blood. Infect Immun. 77: 725-32. 13. Zelnickova, P. et al. (2007) Intracellular cytokine detection by flow cytometry in pigs: fixation, permeabilization and cell surface staining. J Immunol Methods. 327: 18-29. 14. Facci, M.R. et al. (2011) Stability of expression of reference genes in porcine peripheral blood mononuclear and dendritic cells. Vet Immunol Immunopathol. 141: 11-5. 15. Koutná, I. et al. (2012) Flow Cytometry Analysis of Intracellular Protein In: Flow Cytometry -

16. Facci, M.R. *et al.* (2010) A comparison between isolated blood dendritic cells and monocyte-derived dendritic cells in pigs. [Immunology. 129: 396-405.](#)
17. Schierack, P. *et al.* (2009) Effects of *Bacillus cereus* var. *toyoi* on immune parameters of pregnant sows. [Vet Immunol Immunopathol. 127: 26-37.](#)
18. Lundeland, B. *et al.* (2011) Severe gunshot injuries in a porcine model: impact on central markers of innate immunity. [Acta Anaesthesiol Scand. 55: 28-34.](#)
19. Thorgersen, E.B. *et al.* (2008) Cyanobacterial LPS antagonist (CyP)-a novel and efficient inhibitor of *Escherichia coli* LPS-induced cytokine response in the pig. [Mol Immunol. 45: 3553-7.](#)
20. Schierack, P. *et al.* (2007) *Bacillus cereus* var. *toyoi* enhanced systemic immune response in piglets. [Vet Immunol Immunopathol. 118: 1-11.](#)
21. Ondrackova, P. *et al.* (2012) Interaction of porcine neutrophils with different strains of enterotoxigenic *Escherichia coli*. [Vet Microbiol. 160: 108-16.](#)
22. Ondrackova, P. *et al.* (2013) Phenotypic characterisation of the monocyte subpopulations in healthy adult pigs and *Salmonella*-infected piglets by seven-colour flow cytometry. [Res Vet Sci. 94 \(2\): 240-5.](#)
23. Vicensova, M. *et al.* (2014) Evaluation of *in vitro* and *in vivo* anti-inflammatory activity of biologically active phospholipids with anti-neoplastic potential in porcine model. [BMC Complement Altern Med. 14: 339.](#)
24. Alvarez, B. *et al.* (2015) Phenotypic and functional heterogeneity of CD169⁺ and CD163⁺ macrophages from porcine lymph nodes and spleen. [Dev Comp Immunol. 44: 44-9.](#)
25. Egge, K.H. *et al.* (2015) Organ inflammation in porcine *Escherichia coli* sepsis is markedly attenuated by combined inhibition of C5 and CD14. [Immunobiology. 220 \(8\): 999-1005.](#)
26. Moffat, L. *et al.* (2014) Development and characterisation of monoclonal antibodies reactive with porcine CSF1R (CD115). [Dev Comp Immunol. 47 \(1\): 123-8.](#)
27. Nguyen, D.N. *et al.* (2016) Oral antibiotics increase blood neutrophil maturation and reduce bacteremia and necrotizing enterocolitis in the immediate postnatal period of preterm pigs. [Innate Immun. 22 \(1\): 51-62.](#)
28. Liu J *et al.* (2016) The Role of Porcine Monocyte Derived Dendritic Cells (MoDC) in the Inflammation Storm Caused by *Streptococcus suis* Serotype 2 Infection. [PLoS One. 11 \(3\): e0151256.](#)
29. Kyrova K *et al.* (2014) The response of porcine monocyte derived macrophages and dendritic cells to *Salmonella typhimurium* and lipopolysaccharide. [BMC Vet Res. 10: 244.](#)
30. Auray, G. *et al.* (2016) Characterization and Transcriptomic Analysis of Porcine Blood Conventional and Plasmacytoid Dendritic Cells Reveals Striking Species-Specific Differences. [J Immunol. Nov 11. pii: 1600672. \[Epub ahead of print\]](#)
31. Kavanová L *et al.* (2017) Concurrent infection with porcine reproductive and respiratory syndrome virus and *Haemophilus parasuis* in two types of porcine macrophages: apoptosis, production of ROS and formation of multinucleated giant cells. [Vet Res. 48 \(1\): 28.](#)
32. Zemankova, N. *et al.* (2016) Bovine lactoferrin free of lipopolysaccharide can induce a proinflammatory response of macrophages. [BMC Vet Res. 12 \(1\): 251.](#)

Further Reading

1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. [Vet Res. 39: 54.](#)
2. Petersen, C.B. *et al.* (2007) Cloning, characterization and mapping of porcine CD14 reveals a high conservation of mammalian CD14 structure, expression and locus organization. [Dev Comp Immunol. 31: 729-37.](#)
3. Sanz, G. *et al.* (2007) Molecular cloning, chromosomal location, and expression analysis of porcine CD14. [Dev Comp Immunol. 31\(7\):738-47.](#)

Storage

Store at +4°C or at -20°C if preferred.
Storage in frost-free freezers is not recommended.
This product should be stored undiluted.

This product is photosensitive and should be protected from light.
Avoid repeated freezing and thawing as this may denature the antibody.
Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life	18 months from date of despatch.
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Health And Safety Information	Material Safety Datasheet documentation #10041 available at: 10041: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
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Regulatory	For research purposes only
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Related Products

Recommended Negative Controls

[MOUSE IgG2b NEGATIVE CONTROL:FITC \(MCA691F\)](#)

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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