

Datasheet: MCA1971PE

BATCH NUMBER 162842

Description:	MOUSE ANTI PIG CD16:RPE
Specificity:	CD16
Other names:	FcRIII
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	G7
Isotype:	IgG1
Quantity:	100 TESTS

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	▪			Neat

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	Pig		
Product Form	Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized		
Reconstitution	Reconstitute with 1.0 ml distilled water		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	RPE 488nm laser	496	578
Preparation	Purified IgG prepared by affinity chromatography on Protein A		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide		
Stabilisers	1%	Bovine Serum Albumin	
	5%	Sucrose	

Immunogen	Porcine peripheral blood leucocytes
External Database Links	<p>UniProt: Q28942 Related reagents</p> <p>Entrez Gene: 397684 FCGR3B Related reagents</p>
RRID	AB_2262739
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the mouse P3-X63-Ag8.653 myeloma cell line
Specificity	<p>Mouse anti Pig CD16, clone G7 recognizes porcine CD16 also known as Fc-gamma RIII or the low affinity IgG (Fc) receptor III. Clone G7 was clustered as CD16 at the Second International Workshop to Define Swine Cluster of Differentiation (CD) Antigens (Saalmuller et al. 1998).</p> <p>Mouse anti pig CD16 immunoprecipitates a protein of ~40 kDa from porcine neutrophils and NK cells (Wierda et al. 1993). Subsequent cloning and characterization of the G7 molecule indicated that G7 was the porcine homologue of Human CD16 (Halloran et al. 1994).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> Dato, M.E. <i>et al.</i> (1992) A triggering structure recognized by G7 monoclonal antibody on porcine lymphocytes and granulocytes. Cell Immunol. 140 (2): 468-77. Wierda, W.G. <i>et al.</i> (1993) Two distinct porcine natural killer lytic trigger molecules as PNK-E/G7 molecular complex. Cell Immunol. 146 (2): 270-83. Halloran, P.J. <i>et al.</i> (1994) Biochemical characterization of the porcine Fc gamma RIII alpha homologue G7. Cell Immunol. 158 (2): 400-13. Devriendt, B. <i>et al.</i> (2010) Targeting of <i>Escherichia coli</i> F4 fimbriae to Fc gamma receptors enhances the maturation of porcine dendritic cells. Vet Immunol Immunopathol. 135 (3-4): 188-98. Inman, C.F. <i>et al.</i> (2010) Dendritic cells interact with CD4 T cells in intestinal mucosa. J Leukoc Biol. 88 (3): 571-8. Terzic, S. <i>et al.</i> (2002) Immunophenotyping of leukocyte subsets in peripheral blood and palatine tonsils of prefattening pigs. Vet Res Commun. 26: 273 - 83. Masure, D. <i>et al.</i> (2013) A Role for Eosinophils in the Intestinal Immunity against Infective <i>Ascaris suum</i> Larvae. PLoS Negl Trop Dis. 7: e2138. Hester, S.N. <i>et al.</i> (2012) Intestinal and systemic immune development and response to vaccination are unaffected by dietary (1,3/1,6)-β-D-glucan supplementation in neonatal piglets. Clin Vaccine Immunol. 19 (9): 1499-508. Kapetanovic, R. <i>et al.</i> (2012) Pig bone marrow-derived macrophages resemble human macrophages in their response to bacterial lipopolysaccharide. J Immunol. 188: 3382 - 94. Gimeno, M. <i>et al.</i> (2011) Cytokine profiles and phenotype regulation of antigen presenting cells by genotype-I porcine reproductive and respiratory syndrome virus

isolates. [Vet Res. 42: 9.](#)

11. Mussá, T. *et al.* (2011) Interaction of porcine conventional dendritic cells with swine influenza virus. [Virology 420: 125-34.](#)
12. Vincent, I.E. *et al.* (2003) Dendritic cells harbor infectious porcine circovirus type 2 in the absence of apparent cell modulation or replication of the virus. [J Virol. 77: 13288 - 300.](#)
13. Inman, C.F. *et al.* (2012) Neonatal colonisation expands a specific intestinal antigen-presenting cell subset prior to CD4 T-cell expansion, without altering T-cell repertoire. [PLoS One 7: e33707.](#)
14. Sánchez, C. *et al.* (1999) The porcine 2A10 antigen is homologous to human CD163 and related to macrophage differentiation. [J Immunol. 162 \(9\): 5230-7.](#)
15. Lecours, M.P. *et al.* (2011) Characterization of porcine dendritic cell response to *Streptococcus suis*. [Vet Res. 42: 72.](#)
16. Inman, C.F. *et al.* (2010) Rearing environment affects development of the immune system in neonates. [Clin Exp Immunol. 160 \(3\): 431-9.](#)
17. Summerfield, A. *et al.* (2003) Porcine peripheral blood dendritic cells and natural interferon-producing cells. [Immunology 110: 440-9.](#)
18. Mair, K.H. *et al.* (2012) NKp46 expression discriminates porcine NK cells with different functional properties. [Eur J Immunol. 42: 1261-71.](#)
19. Mair, K.H. *et al.* (2013) Porcine CD8 α dim⁻/NKp46^{high} NK cells are in a highly activated state. [Vet Res. 44: 13.](#)
20. 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. \[Epub ahead of print\]](#)
21. 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.](#)
22. Suzuki, S. *et al.* (2016) Generation and characterization of RAG2 knockout pigs as animal model for severe combined immunodeficiency. [Vet Immunol Immunopathol. 178: 37-49.](#)
23. Waide, E.H. *et al.* (2015) Not All SCID Pigs Are Created Equally: Two Independent Mutations in the Artemis Gene Cause SCID in Pigs. [J Immunol. 195 \(7\): 3171-9.](#)
24. Loss, H. *et al.* (2018) Effects of a pathogenic ETEC strain and a probiotic *Enterococcus faecium* strain on the inflammasome response in porcine dendritic cells. [Vet Immunol Immunopathol. 203: 78-87.](#)
25. LeLuduec, J.B. *et al.* (2016) Intradermal vaccination with un-adjuvanted sub-unit vaccines triggers skin innate immunity and confers protective respiratory immunity in domestic swine. [Vaccine. 34 \(7\): 914-22.](#)
26. Ferret-Bernard, S. *et al.* (2020) Maternal Supplementation of Food Ingredient (Prebiotic) or Food Contaminant (Mycotoxin) Influences Mucosal Immune System in Piglets. [Nutrients. 12 \(7\): 2115.](#)
27. Skovdal, S.M. *et al.* (2019) Inhaled nebulized glatiramer acetate against Gram-negative bacteria is not associated with adverse pulmonary reactions in healthy, young adult female pigs. [PLoS One. 14 \(10\): e0223647.](#)
28. Fernández-Caballero, T. *et al.* (2018) Phenotypic and functional characterization of porcine bone marrow monocyte subsets. [Dev Comp Immunol. 81: 95-104.](#)
29. Teuben, M.P.J. *et al.* (2021) Standardized porcine unilateral femoral nailing is associated with changes in PMN activation status, rather than aberrant systemic PMN

- prevalence. [Eur J Trauma Emerg Surg. Jun 10 \[Epub ahead of print\].](#)
30. Teuben, M. *et al.* (2021) Instant intra-operative neutropenia despite the emergence of banded (CD16^{dim}/CD62L^{bright}) neutrophils in peripheral blood - An observational study during extensive trauma-surgery in pigs. [Injury. 52 \(3\): 426-33.](#)
31. Van der Weken, H. *et al.* (2021) Antibody-Mediated Targeting of Antigens to Intestinal Aminopeptidase N Elicits Gut IgA Responses in Pigs. [Front Immunol. 12: 753371.](#)
32. Boettcher, A.N. *et al.* (2020) CD3 ϵ ⁺ Cells in Pigs With Severe Combined Immunodeficiency Due to Defects in ARTEMIS [Frontiers in Immunology. 11 \[Epub ahead of print\].](#)
33. Zhao, H. *et al.* (2022) Development of *RAG2*^{-/-} *IL2R γ* ^{-/-} immune deficient FAH-knockout miniature pig. [Front Immunol. 13: 950194.](#)

Further Reading	1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39: 54.
	2. Gerner W <i>et al.</i> (2015) Phenotypic and functional differentiation of porcine $\alpha\beta$ T cells: current knowledge and available tools. Mol Immunol. 66 (1): 3-13.

Storage Store at +4°C.

DO NOT FREEZE.

This product should be stored undiluted. This product is photosensitive and should be protected from light. 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 #20487 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1971PE> 20487

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:RPE \(MCA928PE\)](#)

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
----------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------	------------------	-------------------------------------------------------------------------------------------------------------------------------------------------	---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets) 'M375400:210104'

Printed on 20 Apr 2023