Datasheet: MCA1971PE

BATCH NUMBER 165674

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 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.

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 from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% sodium azide (NaN_3)
1% bovine serum albumin

	5% sucrose
Immunogen	Porcine peripheral blood leucocytes
External Database Links	**UniProt:** Q28942 Related reagents **Entrez Gene:** 397684 FCGR3B Related reagents
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	**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). 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).
Flow Cytometry	Use 10µl of the suggested working dilution to label 10^6 cells in 100µl
References	1. Wierda, W.G. *et al.* (1993) Two distinct porcine natural killer lytic trigger molecules as PNK-E/G7 molecular complex. Cell Immunol. 146 (2): 270-83. 2. Halloran, P.J. *et al.* (1994) Biochemical characterization of the porcine Fc gamma RIII alpha homologue G7. Cell Immunol. 158 (2): 400-13. 3. 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. 4. Terzic, S. *et al.* (2002) Immunophenotyping of leukocyte subsets in peripheral blood and palatine tonsils of prefattening pigs. Vet Res Commun. 26: 273 - 83. 5. 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. 6. Summerfield, A. *et al.* (2003) Porcine peripheral blood dendritic cells and natural interferon-producing cells. Immunology 110: 440-9. 7. Inman, C.F. *et al.* (2010) Rearing environment affects development of the immune system in neonates. Clin Exp Immunol. 160 (3): 431-9. 8. Inman, C.F. *et al.* (2010) Dendritic cells interact with CD4 T cells in intestinal mucosa. J Leukoc Biol. 88 (3): 571-8. 9. Devriendt, B. *et al.* (2010) Targeting of *Escherichia coli* F4 fimbriae to Fcgamma receptors enhances the maturation of porcine dendritic cells. Vet Immunol Immunopathol. 135 (3-4): 188-98.

10. Gimeno, M. *et al.* (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. Lecours, M.P. *et al.* (2011) Characterization of porcine dendritic cell response to *Streptococcus suis*. Vet Res. 42: 72.
13. Mair, K.H. *et al.* (2012) NKp46 expression discriminates porcine NK cells with different functional properties. Eur J Immunol. 42: 1261-71.
14. Hester, S.N. *et al.* (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.
15. 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.
16. Mair, K.H. *et al.* (2013) Porcine CD8αdim/-NKp46high NK cells are in a highly activated state. Vet Res. 44: 13.
17. Masure, D. *et al.* (2013) A Role for Eosinophils in the Intestinal Immunity against Infective *Ascaris suum* Larvae. PLoS Negl Trop Dis. 7: e2138.
18. 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.
19. 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.
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. 197 (12): 4791-806.
21. 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.
22. 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.
23. 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.
24. Fernández-Caballero, T. *et al.* (2018) Phenotypic and functional characterization of porcine bone marrow monocyte subsets. Dev Comp Immunol. 81: 95-104.
25. 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.
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. Boettcher, A.N. *et al.* (2020) CD3ε(+) Cells in Pigs With Severe Combined Immunodeficiency Due to Defects in ARTEMIS. Front Immunol. 11: 510.
28. Teuben, M.P.J. *et al.* (2022) Standardized porcine unilateral femoral nailing is associated with changes in PMN activation status, rather than aberrant systemic PMN

prevalence. Eur J Trauma Emerg Surg. 48 (3): 1601-11.
29. 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.
30. 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.
31. Zhao, H. *et al.* (2022) Development of *RAG2* $^{-/-}$ *IL2Rγ* $^{-/Y}$ immune deficient FAH-knockout miniature pig. Front Immunol. 13: 950194.
32. Štěpánová, H. *et al.* (2022) Characterization of Porcine Monocyte-Derived Macrophages Cultured in Serum-Reduced Medium. Biology (Basel). 11(10):1457.
33. Monguió-Tortajada, M. *et al.* (2022) Acellular cardiac scaffolds enriched with MSC-derived extracellular vesicles limit ventricular remodelling and exert local and systemic immunomodulation in a myocardial infarction porcine model. Theranostics. 12 (10): 4656-70.

Further Reading	1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39: 54. 2. Gerner W *et al.* (2015) Phenotypic and functional differentiation of porcine αβ 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)

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