

# Datasheet: MCA1971GA

**BATCH NUMBER 162371**

<b>Description:</b>	MOUSE ANTI PIG CD16
<b>Specificity:</b>	CD16
<b>Other names:</b>	FcRIII
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	G7
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/25 - 1/200
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	
Immunofluorescence	▪			

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>	Pig
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )

Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Porcine peripheral blood leucocytes
External Database Links	<p><b>UniProt:</b>  <a href="#">Q28942</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">397684</a>    FCGR3B    <a href="#">Related reagents</a></p>
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><b>Mouse anti Pig CD16, clone G7</b> 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 (<a href="#">Saalmuller et al. 1998</a>).</p> <p>Mouse anti pig CD16 immunoprecipitates a protein of ~40 kDa from porcine neutrophils and NK cells (<a href="#">Wierda et al. 1993</a>). Subsequent cloning and characterization of the G7 molecule indicated that G7 was the porcine homologue of Human CD16 (<a href="#">Halloran et al. 1994</a>).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label $1 \times 10^6$ cells in 100ul.
References	<ol style="list-style-type: none"> <li>1. Dato, M.E. <i>et al.</i> (1992) A triggering structure recognized by G7 monoclonal antibody on porcine lymphocytes and granulocytes. <a href="#">Cell Immunol. 140 (2): 468-77.</a></li> <li>2. Wierda, W.G. <i>et al.</i> (1993) Two distinct porcine natural killer lytic trigger molecules as PNK-E/G7 molecular complex. <a href="#">Cell Immunol. 146 (2): 270-83.</a></li> <li>3. Halloran, P.J. <i>et al.</i> (1994) Biochemical characterization of the porcine Fc gamma RIII alpha homologue G7. <a href="#">Cell Immunol. 158 (2): 400-13.</a></li> <li>4. Devriendt, B. <i>et al.</i> (2010) Targeting of <i>Escherichia coli</i> F4 fimbriae to Fcgamma receptors enhances the maturation of porcine dendritic cells. <a href="#">Vet Immunol Immunopathol. 135 (3-4): 188-98.</a></li> <li>5. Inman, C.F. <i>et al.</i> (2010) Dendritic cells interact with CD4 T cells in intestinal mucosa. <a href="#">J Leukoc Biol. 88 (3): 571-8.</a></li> <li>6. Terzic, S. <i>et al.</i> (2002) Immunophenotyping of leukocyte subsets in peripheral blood and palatine tonsils of prefattening pigs. <a href="#">Vet Res Commun. 26: 273 - 83.</a></li> <li>7. Masure, D. <i>et al.</i> (2013) A Role for Eosinophils in the Intestinal Immunity against Infective <i>Ascaris suum</i> Larvae. <a href="#">PLoS Negl Trop Dis. 7: e2138.</a></li> <li>8. 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. <a href="#">Clin Vaccine Immunol. 19 (9): 1499-508.</a></li> <li>9. Kapetanovic, R. <i>et al.</i> (2012) Pig bone marrow-derived macrophages resemble human</li> </ol>

- macrophages in their response to bacterial lipopolysaccharide. [J Immunol. 188: 3382 - 94.](#)
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. 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 $\alpha$ dim/-Nkp46high 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<sup>dim</sup>/CD62L<sup>bright</sup>) 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) CD3ε<sup>+</sup> 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*<sup>-/-</sup> *IL2Rγ*<sup>-/-</sup> immune deficient FAH-knockout miniature pig. [Front Immunol. 13: 950194.](#)

<b>Further Reading</b>	<p>1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. <a href="#">Vet Res. 39: 54.</a></p> <p>2. Gerner W <i>et al.</i> (2015) Phenotypic and functional differentiation of porcine αβ T cells: current knowledge and available tools. <a href="#">Mol Immunol. 66 (1): 3-13.</a></p>
<b>Storage</b>	<p>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.</p> <p>Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.</p>
<b>Guarantee</b>	12 months from date of despatch
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA1971GA">https://www.bio-rad-antibodies.com/SDS/MCA1971GA</a> 10040
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</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>
Rabbit Anti Mouse IgG (STAR9...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>

Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)

Rabbit Anti Mouse IgG (STAR13...) [HRP](#)

## Recommended Negative Controls

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

**North & South** Tel: +1 800 265 7376

**America** Fax: +1 919 878 3751

Email: [antibody\\_sales\\_us@bio-rad.com](mailto:antibody_sales_us@bio-rad.com)

**Worldwide**

Tel: +44 (0)1865 852 700

Fax: +44 (0)1865 852 739

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