Datasheet: MCA1971SBV670

BATCH NUMBER 64776192

Description:	MOUSE ANTI PIG CD16:StarBright Violet 670
Specificity:	CD16
Other names:	FcRIII
Format:	StarBright Violet 670
Product Type:	Monoclonal Antibody
Clone:	G7
Isotype:	IgG1
Quantity:	100 TESTS/0.5ml

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 (1)	▪			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.

(1)**Staining at lower temperatures generally requires longer incubation to reach antibody binding equilibrium, and this effect is more pronounced for StarBright Dyes due to their larger size. For optimum staining, Bio-Rad recommends incubating samples either overnight at 4°C or 1 hour at room temperature.**

Target Species

Pig

Product Form

Purified IgG conjugated to StarBright Violet 670 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright Violet 670	401	667

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 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
Approx. Protein Concentrations	For information on the concentration of our StarBright Dye conjugated reagents please visit our FAQ page.
Immunogen	Porcine peripheral blood leucocytes
External Database Links	**UniProt:** Q28942 Related reagents **Entrez Gene:** 397684 FCGR3B Related reagents
Fusion Partners	Spleen cells from immunized 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 5µl of the suggested working dilution to label $0.5x10^6$ cells in 100µl. Best practices suggest a 5 min centrifugation at 6,000g prior to sample application.
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. Thierry, A. *et al.* (2012) Identification of invariant natural killer T cells in porcine peripheral blood. Vet Immunol Immunopathol. 149 (3-4): 272-9.
16. 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.
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. Mair, K.H. *et al.* (2013) Porcine CD8αdim/-NKp46high NK cells are in a highly activated state. Vet Res. 44: 13.
19. 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.
20. 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.
21. 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.
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. 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.
24. Waddell, L.A. *et al.* (2018) ADGRE1 (EMR1, F4/80) Is a Rapidly-Evolving Gene Expressed in Mammalian Monocyte-Macrophages. Front Immunol. 9: 2246.
25. Fernández-Caballero, T. *et al.* (2018) Phenotypic and functional characterization of porcine bone marrow monocyte subsets. Dev Comp Immunol. 81: 95-104.
26. 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.

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. 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.
29. Boettcher, A.N. *et al.* (2020) CD3ε(+) Cells in Pigs With Severe Combined Immunodeficiency Due to Defects in ARTEMIS. Front Immunol. 11: 510.
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. 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.
32. 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.
33. Zhao, H. *et al.* (2022) Development of *RAG2* $^{-/-}$ *IL2Rγ* $^{-/Y}$ immune deficient FAH-knockout miniature pig. Front Immunol. 13: 950194.
34. Štěpánová, H. *et al.* (2022) Characterization of Porcine Monocyte-Derived Macrophages Cultured in Serum-Reduced Medium. Biology (Basel). 11(10):1457.
35. 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.
36. Haach, V. *et al.* (2023) A polyvalent virosomal influenza vaccine induces broad cellular and humoral immunity in pigs. Virol J. 20 (1): 181.
37. Álvarez, B. *et al.* (2023) Porcine Macrophage Markers and Populations: An Update. Cells. 12 (16): 2103.
38. Maciag, S. *et al.* (2022) Effects of freezing storage on the stability of maternal cellular and humoral immune components in porcine colostrum. Vet Immunol Immunopathol. 254: 110520.
39. Forner, R. *et al.* (2021) Distribution difference of colostrum-derived B and T cells subsets in gilts and sows. PLoS One. 16 (5): e0249366.
40. Muir, A. *et al.* (2024) Single-cell analysis reveals lasting immunological consequences of influenza infection and respiratory immunization in the pig lung. PLoS Pathog. 20 (7): e1011910.
41. Sedaghat-Rostami, E. *et al.* (2025) Porcine respiratory coronavirus as a model for acute respiratory disease: mechanisms of different infection outcomes. J Immunol. 214 (7): 1643-1660.
42. Jaudas, F. *et al.* (2025) Perinatal dysfunction of innate immunity in cystic fibrosis. Sci Transl Med. 17 (782): eadk9145.
43. Tng, P.Y.L. *et al.* (2025) Early disruption of the innate-adaptive immune axis in vivo after infection with virulent Georgia 2007/1 ASFV. Discov Immunol. 4 (1): kyaf014.
44. Teuben, J.P.M. *et al.* (2026) Early definitive fracture fixation (EDFF) does not alter circulatory neutrophil activation status in physiologically restored polytrauma: a 72-h porcine observation study Scientific Reports. 29 Aug [Epub ahead of print].
45. Clayton, S.M. *et al.* (2026) A Flow Cytometry Workflow for Identifying Myeloid Subsets

	in Porcine Wound Tissue. Wound Repair Regen. 34 (2): e70146.
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	This product is shipped at ambient temperature. Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
Guarantee	12 months from date of despatch
Acknowledgements	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
Health And Safety Information	Material Safety Datasheet documentation #20471 available at: https://www.bio-rad-antibodies.com/SDS/MCA1971SBV670
Regulatory	For research purposes only

Product inquiries: www.bio-rad-antibodies.com/technical-support

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

'M451988:260710'

Printed on 10 Nov 2026

© 2026 Bio-Rad Laboratories Inc | Legal | Imprint