Datasheet: MCA2312A647

Description:	MOUSE ANTI PIG CD172a:Alexa Fluor® 647
Specificity:	CD172a
Other names:	SWC3
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	BL1H7
Isotype:	IgG1
Quantity:	100 TESTS/1ml

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 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 Alexa Fluor® 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

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

Approx. Protein Concentrations

IgG concentration 0.05 mg/ml

Immunogen	Porcine alveolar macrophages.
External Database Links	**UniProt:** Q5K4Q3 Related reagents
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the mouse SP2/0 myeloma cell line.
Specificity	**Mouse anti Pig CD172a, clone BL1H7** recognizes porcine CD172a, a member of the signal regulatory protein (SIRP) family (Alvarez *et al.* 2000). Mouse anti Pig CD172a, clone BL1H7 was originally clustered as SWC3 at the Third International Swine Cluster of Differentiation Workshop (Haverson *et al.* 2001;Thacker *et al.* 2001). CD172a is expressed on monocyte derived dendritic cells (MoDCs) (Facci *et al.* 2010) also conventional (cDCs), plasmacytoid (pDCs) DCs and blood DCs.(Facci; Jeong *et al.* 2010). Mouse anti Pig CD172a, clone BL1H7 immunoprecipitates a single band of ~90-110 kDa from preparations of biotinylated alveolar macrophages, a result confirmed by Western blotting analysis of alveolar macrophage lysates under non reducing conditions (Alvarez *et al.* 2000). Aberrant expression of CD172a has been noted on porcine leukemias (Sipos *et al.* 2006) with blast cells co-expressing lymphocytic markers CD5 and CD25 whilst expressing the Myeloid marker CD172a in a bi-phenotypic pattern as opposed to the more characteristic single population of CD172+ cells seen in normal blood PBMC (Chamorro *et al.* 2005). Mouse anti Pig CD172a, clone BL1H7 has proved a useful and reliable tool for immunohistochemical analysis of routinely processed, formalin fixed, paraffin embedded porcine tissues (Domenech *et al.* 2003).
Flow Cytometry	Use 10µl of the suggested working dilution to 1x10^6 cells in 100µl
References	1. Alvarez, B. *et al.* (2000) A porcine cell surface receptor identified by monoclonal antibodies to SWC3 is a member of the signal regulatory protein family and associates with protein-tyrosine phosphatase SHP-1. Tissue Antigens. 55 (4): 342-51. 2. Domenech, N. *et al.* (2003) Identification of porcine macrophages with monoclonal antibodies in formalin-fixed, paraffin-embedded tissues. Vet Immunol Immunopathol. 94 (1-2): 77-81. 3. Carrillo, A. *et al.* (2002) Isolation and characterization of immortalized porcine aortic endothelial cell lines. Vet Immunol Immunopathol. 89 (1-2): 91-8. 4. Fraile, L. *et al.* (2012) Immunomodulatory properties of beta-sitosterol in pig immune responses. Int Immunopharmacol. 13 (3): 316-21. 5. Jeong, H.J. *et al.* (2010) Comparative measurement of cell-mediated immune responses of swine to the M and N proteins of porcine reproductive and respiratory syndrome virus. Clin Vaccine Immunol. 17 (4): 503-12. 6. 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. 7. Moreno, S. *et al.* (2010) Porcine monocyte subsets differ in the expression of CCR2

and in their responsiveness to CCL2. Vet Res. 41: 76.
8. Facci, M.R. *et al.* (2010) A comparison between isolated blood dendritic cells and monocyte-derived dendritic cells in pigs. Immunology. 129: 396-405.
9. Clapperton, M. *et al.* (2005) Innate immune traits differ between Meishan and Large White pigs. Vet Immunol Immunopathol. 104: 131-44.
10. Argilaguet, J.M. *et al.* (2012) DNA vaccination partially protects against African swine fever virus lethal challenge in the absence of antibodies. PLoS One. 7 (9): e40942.
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. Tambuyzer, B.R. *et al.* (2012) Osteopontin alters the functional profile of porcine microglia *in vitro*. Cell Biol Int. 36 (12): 1233-8.
13. Robinson, S.R. *et al.* (2015) Broadly neutralizing antibodies against the rapidly evolving porcine reproductive and respiratory syndrome virus. Virus Res. 203: 56-65.
14. Li, J. & Murtaugh, M.P. (2015) Functional analysis of porcine reproductive and respiratory syndrome virus N-glycans in infection of permissive cells. Virology. 477: 82-8.
15. Prims. S. *et al.* (2016) Intestinal immune cell quantification and gram type classification of the adherent microbiota in conventionally and artificially reared, normal and low birth weight piglets. J Livestock Sci 185: 1-7.
16. Gardner, D.S. *et al.* (2016) Remote effects of acute kidney injury in a porcine model. Am J Physiol Renal Physiol. 310 (4): F259-71.
17. Valekova I *et al.* (2016) Revelation of the IFNα, IL-10, IL-8 and IL-1β as promising biomarkers reflecting immuno-pathological mechanisms in porcine Huntington's disease model. J Neuroimmunol. 293: 71-81.
18. Gardner, D.S. *et al.* (2016) Remote effects of acute kidney injury in a porcine model. Am J Physiol Renal Physiol. 310 (4): F259-71.
19. Thirion-Delalande, C. *et al.* (2017) Comparative analysis of the oral mucosae from rodents and non-rodents: Application to the nonclinical evaluation of sublingual immunotherapy products. PLoS One. 12 (9): e0183398.
20. Auray, G. *et al.* (2013) Porcine neonatal blood dendritic cells, but not monocytes, are more responsive to TLRs stimulation than their adult counterparts. PLoS One. 8 (5): e59629.
21. Hu, W. *et al.* (2021) shRNA transgenic swine display resistance to infection with the foot-and-mouth disease virus. Sci Rep. 11 (1): 16377.
22. Radlowski, E.C. *et al.* (2021) Combination-Feeding Causes Differences in Aspects of Systemic and Mucosal Immune Cell Phenotypes and Functions Compared to Exclusive Sow-Rearing or Formula-Feeding in Piglets. Nutrients. 13(4):1097.
23. Melgoza-González, A.E. *et al.* (2022) Antigen Targeting of Porcine Skin DEC205+ Dendritic Cells Vaccines. 10 (5): 684.
24. Zhou, L. *et al.* (2022) Clinical improvement of sepsis by extracorporeal centrifugal leukocyte apheresis in a porcine model. J Transl Med. 20 (1): 538.
25. Álvarez, B. *et al.* (2023) Porcine Macrophage Markers and Populations: An Update. Cells. 12 (16): 2103.
26. Wei, H. *et al.* (2024) Novel Approach in DNA vaccine development against porcine circovirus type 2 Theoretical and Applied Veterinary Medicine. 12 (1): 15-24.
27. Chen, Y. *et al.* (2025) ASFV activates STAT3 to induce proviral M2 macrophage polarization. Vet Microbiol. 311: 110733.
28. Jaudas, F. *et al.* (2025) Perinatal dysfunction of innate immunity in cystic fibrosis. Sci

	Transl Med. 17 (782): eadk9145.
Further Reading	1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39: 54.
Storage	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. Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.
Guarantee	12 months from date of despatch
Acknowledgements	This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchased product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2312A647
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 (MCA928A647)

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

'M414544:221212'

Printed on 20 Jan 2026