Datasheet: MCA2312F

Description:	MOUSE ANTI PIG CD172a:FITC
Specificity:	CD172a
Other names:	SWC3
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	BL1H7
Isotype:	IgG1
Quantity:	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.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat - 1/10

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 Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

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 0.1 mg/ml

Immunogen	Porcine alveolar macrophages.
External Database Links	**UniProt:** Q5K4Q3 Related reagents
RRID	AB_2188073
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.

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. This product is photosensitive and should be protected from light.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2312F 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:FITC (MCA928F)

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

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