# Datasheet: MCA2312GA

## BATCH NUMBER 167453

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|---|---|
| **Description:** | MOUSE ANTI PIG CD172a |
| **Specificity:** | CD172a |
| **Other names:** | SWC3 |
| **Format:** | Purified |
| **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 | ▪ | | | 1/10 - 1/20 |
| Immunohistology - Frozen | ▪ | | | |
| Immunohistology - Paraffin (1) | ▪ | | | |
| ELISA | | | ▪ | |
| Immunoprecipitation | ▪ | | | |
| Western Blotting (2) | ▪ | | | |

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) **This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. Sodium citrate buffer pH 6.0 is recommended for this purpose.**

(2)**Clone BL1H7 recognizes porcine CD172a under non-reducing conditions.**

**Target Species**

Pig

**Product Form**

Purified IgG - liquid

**Preparation**

Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

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| **Buffer Solution** | Phosphate buffered saline |
| **Preservative Stabilisers** | 0.09% sodium azide ($NaN_3$) |
| **Carrier Free** | Yes |
| **Approx. Protein Concentrations** | IgG concentration 1.0 mg/ml |
| **Immunogen** | Porcine alveolar macrophages. |
| **External Database Links** | **UniProt:**<br>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).<br><br>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).<br><br>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 |
| **Histology Positive Control Tissue** | Porcine spleen |
| **Western Blotting** | Mouse anti Pig CD172a antibody, clone BL1H7 detects a band of approximately 90-115 kDa in alveolar macrophage lysates. |
| **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.

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| **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.<br><br>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 |
| **Health And Safety Information** | Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA2312GA<br>10040 |
| **Regulatory** | For research purposes only |

## Related Products

### Recommended Secondary Antibodies

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| Rabbit Anti Mouse IgG (STAR12...) | RPE |
| Goat Anti Mouse IgG IgA IgM (STAR87...) | HRP |
| Goat Anti Mouse IgG (STAR76...) | RPE |
| Rabbit Anti Mouse IgG (STAR13...) | HRP |
| Goat Anti Mouse IgG (STAR70...) | FITC |
| Goat Anti Mouse IgG (H/L) (STAR117...) | Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP |
| Rabbit Anti Mouse IgG (STAR9...) | FITC |
| Goat Anti Mouse IgG (STAR77...) | HRP |
| Goat Anti Mouse IgG (Fc) (STAR120...) | FITC, HRP |

### Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)

**North & South America** Tel: +1 800 265 7376
Fax: +1 919 878 3751
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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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