Datasheet: MCA1973GA

Description:	MOUSE ANTI PIG CD203a
Specificity:	CD203a
Other names:	SWC9
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	PM18-7
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	▪			1/25 - 1/200
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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 - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein A
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.

Fusion Partners

Spleen cells from immunized mice were fused with P3X63-Ag8-653 murine myeloma cells (Kearney *et al.* 1979).

Specificity

Mouse anti Pig CD203a, clone PM18-7 recognizes porcine CD203a, originally clustered as SWC9 at the Second International Swine CD Workshop (Dominguez *et al.* 1998) and later identified as the porcine homologue of human ecto-nucleotidepyrophosphatase / phosphodiesterase 1 or ENPP1 (Petersen *et al.* 2007).

Mouse anti Pig CD203a was originally reported to immunoprecipitate two bands, one of ~;205 kDa and one of ~130 kDa (Dominguez *et al.* 1998) under both reducing and non-reducing conditions. Subsequent studies suggest that CD203a migrates as a homodimer of ~260 kDa under non-reducing conditions and a 130 kDa monomer under reducing conditions (Petersen *et al.* 2007) from preparations of porcine alveolar macrophages.

CD203a is expressed widely in macrophage populations with notably high levels on alveolar macrophages (Petersen *et al.* 2007, Hwang *et al.* 2015), it is not expressed on monocyte populations (McCullough *et al.* 1997, Hwang *et al.* 2015).

SWC1a, expressed at very much higher levels on monocytes than mature macrophages and CD203a (SWC9), expressed exclusively on mature tissue macrophages have been used as markers of monocyte-macrophage differentiation (Sanchez *et al.* 1999).

Flow Cytometry

Use 10ul of the suggested working dilution to label 1x10^6 cells in 100ul

References

1. McCullough, K.C. *et al.* (1997) Phenotype of porcine monocytic cells: modulation of surface molecule expression upon monocyte differentiation into macrophages. Vet Immunol Immunopathol. 58 (3-4): 265-75.
2. McCullough, K.C. *et al.* (1999) Intermediate stages in monocyte-macrophage differentiation modulate phenotype and susceptibility to virus infection. Immunology. 98 (2): 203-12.
3. Boersma, W.J. *et al.* (2001) Summary of workshop findings for porcine B-cell markers. Vet Immunol Immunopathol. 80 (1-2): 63-78.
4. Domínguez, J. *et al.* (1998) Porcine myelomonocytic markers: summary of the Second International Swine CD Workshop. Vet Immunol Immunopathol. 60 (3-4): 329-41.
5. Dominguez, J. *et al.* (1998) Workshop studies with monoclonal antibodies identifying a novel porcine differentiation antigen, SWC9. Vet Immunol Immunopathol. 60 (3-4): 343-9.
6. Petersen, C.B. *et al.* (2007) Porcine ecto-nucleotide pyrophosphatase/phosphodiesterase 1 (NPP1/CD203a): cloning, transcription, expression, mapping, and identification of an NPP1/CD203a epitope for swine workshop cluster 9 (SWC9) monoclonal antibodies. Dev Comp Immunol. 31 (6): 618-31.
7. Basta, S. *et al.* (1999) Modulation of monocytic cell activity and virus susceptibility during differentiation into macrophages. J Immunol. 162 (7): 3961-9.
8. 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.
9. 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.
10. Cantu, E. *et al.* (2006) Depletion of pulmonary intravascular macrophages prevents hyperacute pulmonary xenograft dysfunction. Transplantation. 81 (8): 1157-64.
11. Basta, S. *et al.* (2001) Lipopolysaccharide and phorbol 12-myristate 13-acetate both impair monocyte differentiation, relating cellular function to virus susceptibility. Immunology. 103 (4): 488-97.
12. Lithgow, P. *et al.* (2014) Correlation of cell surface marker expression with African swine fever virus infection. Vet Microbiol. 168: 413 - 9.
13. Ondrackova, P. *et al.* (2013) Phenotypic characterisation of the monocyte subpopulations in

healthy adult pigs and< i> Salmonella-infected piglets by seven-colour flow cytometry. Res Vet Sci. 94: 240 - 5.
14. Tsai, Y.C. *et al.* (2014) Differences in the expression of innate immune response-modulating genes in blood monocytes between subclinically porcine circovirus type s (PCV2)-infected and PCV2-free pigs prior to and after lipopolysaccharide stimulation *in vitro* Taiwan Veterinary Journal. 40 (01): 37-48.
15. Hwang, J.H.*et al.* (2015) Characterization of monoclonal antibodies against porcine pulmonary alveolar macrophages of gnotobiotic miniature swine. Biochem Biophys Res Commun. 461 (2): 427-34.
16. Shao, L. *et al.* (2016) Tissue-specific mRNA expression profiles of porcine Toll-like receptors at different ages in germ-free and conventional pigs. Vet Immunol Immunopathol. 171: 7-16.

Further Reading	1. Piriou-Guzylack, L. & Salmon, H. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39 (6): 54.
Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Shelf Life	18 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos., HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®549, DyLight®649, DyLight®680, DyLight®800, FITC, HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Rabbit Anti Mouse IgG (STAR8...)	DyLight®800
Goat Anti Mouse IgG (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Human Anti Mouse IgG1 (HCA036...)	HRP

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)

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
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