Datasheet: MCA5951GA

BATCH NUMBER 164280

Description:	MOUSE ANTI PIG CD3
Specificity:	CD3 EPSILON
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	PPT3
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	▪			1/50 - 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
Species Cross Reactivity	Does not react with:Bovine, Goat, Horse, Human, Sheep
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative	0.09% Sodium Azide (NaN_3)

Stabilisers	
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Porcine PBMCs
External Database Links	**UniProt:** Q7YRN2 Related reagents **Entrez Gene:** 397455 CD3E Related reagents
Fusion Partners	Lymph node cells from immunized BALB/c mice were fused with cells of the NS0 myeloma cell line
Specificity	**Mouse anti Pig CD3, clone PPT3** recognizes the porcine homologue of human CD3ε, a 24 kDa single pass type I membrane protein expressed by T-lymphocytes. Clone PPT3, also known under the clone designation FY1H2, was clustered at the second international swine CD workshop and found to specifically recognise an epitope on the porcine CD3ε designated as CD3c (Pescovitz, M.D., *et al.* 1998). CD3 is a multimeric protein complex composed of four distinct polypeptide chains (ε, γ, δ, ζ) that assemble and function as three pairs of dimers (εγ, εδ, ζζ). The CD3 complex serves as a T cell co-receptor that associates non-covalently with the T cell receptor (TCR) (Guy, C.S & Vignali, D.G. 2009). CD3 is a defining feature of cells belonging to the T cell lineage, antibodies recognising pig CD3 therefore provide useful markers of porcine T cells. Clone PPT3 has been demonstrated to recognise an epitope that is expressed both intracellularly and extracellularly, additionally clone PPT3 has been demonstrated to activate α/β T-cells (Kirkham P.A., *et al.* 1996). Clone PPT3 was tested on PBL from a range of other mammalian species and found to be negative suggesting that the epitope recognised by this clone is specific to porcine (Yang, H. *et al.* 1996).
References	1. Kirkham, P.A. *et al.* (1996) Porcine CD3 epsilon: its characterization, expression and involvement in activation of porcine T lymphocytes. Immunology. 87 (4): 616-23. 2. Uehlein, S. *et al.* (2021) Human-like Response of Pig T Cells to Superagonistic Anti-CD28 Monoclonal Antibodies. J Immunol. 207 (10): 2473-88. 3. Zhao, H. *et al.* (2022) Development of *RAG2* $^{-/-}$ *IL2Rγ* $^{-/Y}$ immune deficient FAH-knockout miniature pig. Front Immunol. 13: 950194. 4. Maciag, S.S. *et al.* (2022) On the influence of the source of porcine colostrum in the development of early immune ontogeny in piglets. Sci Rep. 12 (1): 15630.

5. dos Santos, M.C. *et al.* (2023) Effect of yeast extracted β-glucans on the immune response and reproductive performance of gilts in the adaptation, gestation, and lactation periods Livestock Science. 275: 105289.
6. Haach, V. *et al.* (2023) A polyvalent virosomal influenza vaccine induces broad cellular and humoral immunity in pigs. Virol J. 20 (1): 181.
7. Hu, Z. *et al.* (2019) Genomic variant in porcine TNFRSF1A gene and its effects on TNF signaling pathway in vitro. Gene. 700: 105-109.
8. Boschetto, F. *et al.* (2024) Protocol for extracting and isolating porcine bone-marrow-derived macrophages from ribs. STAR Protoc. 5 (2): 103085.
9. 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.
10. Forner, R. *et al.* (2021) Distribution difference of colostrum-derived B and T cells subsets in gilts and sows. PLoS One. 16 (5): e0249366.

Further Reading	1. Guy, C.S. & Vignali, D.A. (2009) Organization of proximal signal initiation at the TCR:CD3 complex. Immunol Rev. 32: 7-21.
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
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA5951GA 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
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
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Rabbit Anti Mouse IgG (STAR13...)	HRP

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)

Recommended Useful Reagents

MOUSE ANTI PIG CD4 ALPHA:FITC (MCA1749F)
MOUSE ANTI PIG CD4 ALPHA:RPE (MCA1749PE)
MOUSE ANTI PIG wCD8 ALPHA:FITC (MCA1223F)
MOUSE ANTI PIG wCD8 ALPHA:RPE (MCA1223PE)
MOUSE ANTI PIG CD27:APC (MCA5973APC)
MOUSE ANTI PIG CD335:APC (MCA5972APC)
MOUSE ANTI PIG CD27:FITC (MCA5973F)
MOUSE ANTI PIG CD27:RPE (MCA5973PE)
MOUSE ANTI PIG CD335:Alexa Fluor® 488 (MCA5972A488)

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