

## Datasheet: MCA5951GA

**BATCH NUMBER 164280**

<b>Description:</b>	MOUSE ANTI PIG CD3
<b>Specificity:</b>	CD3 EPSILON
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	PPT3
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://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.

<b>Target Species</b>	Pig
<b>Species Cross Reactivity</b>	Does not react with: Bovine, Goat, Horse, Human, Sheep
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative</b>	0.09% Sodium Azide (NaN <sub>3</sub> )

## Stabilisers

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Carrier Free Yes

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Approx. Protein Concentrations IgG concentration 1.0 mg/ml

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Immunogen Porcine PBMCs

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## External Database Links

### UniProt:

[Q7YRN2](#) [Related reagents](#)

### Entrez Gene:

[397455](#) CD3E [Related reagents](#)

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Fusion Partners Lymph node cells from immunised BALB/c mice were fused with cells of the NS0 myeloma cell line

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## Specificity

**Mouse anti Pig CD3, clone PPT3** recognizes the porcine homologue of human CD3 $\epsilon$ , 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 CD3 $\epsilon$  designated as CD3c ([Pescovitz, M.D., et al. 1998](#)).

CD3 is a multimeric protein complex composed of four distinct polypeptide chains ( $\epsilon$ ,  $\gamma$ ,  $\delta$ ,  $\zeta$ ) that assemble and function as three pairs of dimers ( $\epsilon\gamma$ ,  $\epsilon\delta$ ,  $\zeta\zeta$ ). 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  $\alpha/\beta$  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](#)).

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## References

1. Yang, H. *et al.* (1996) Preparation of monoclonal anti-porcine CD3 antibodies and preliminary characterization of porcine T lymphocytes. [Immunology. 88 \(4\): 577-85.](#)
2. 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.](#)
3. Pescovitz, M.D. *et al.* (1998) Analyses of monoclonal antibodies reacting with porcine CD3: results from the Second International Swine CD Workshop. [Vet Immunol Immunopathol. 60: 261-8.](#)
4. Forberg H *et al.* (2014) Early responses of natural killer cells in pigs experimentally

infected with 2009 pandemic H1N1 influenza A virus. [PLoS One. 9 \(6\): e100619.](#)  
5. Uehlein, S. *et al.* (2021) Human-like Response of Pig T Cells to Superagonistic Anti-CD28 Monoclonal Antibodies. [J Immunol. Oct 08 \[Epub ahead of print\].](#)  
6. Zhao, H. *et al.* (2022) Development of *RAG2<sup>-/-</sup> IL2Rγ<sup>-/-</sup>* immune deficient FAH-knockout miniature pig. [Front Immunol. 13: 950194.](#)

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**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.](#)
2. Maciag, S.S. *et al.* (2022) The influence of source of porcine colostrum in development of early immune ontogeny in the piglet [Ref Sq. Mar 24 \[Epub ahead of print\].](#)

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**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.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA5951GA>  
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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...) [HRP](#)  
Rabbit Anti Mouse IgG (STAR12...) [RPE](#)  
Goat Anti Mouse IgG (STAR70...) [FITC](#)  
Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)  
Rabbit Anti Mouse IgG (STAR9...) [FITC](#)  
Goat Anti Mouse IgG (STAR76...) [RPE](#)  
Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)  
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 (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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