

## Datasheet: MCA5951GA

<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 Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )

<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Porcine PBMCs
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">Q7YRN2</a>   <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">397455</a>   CD3E   <a href="#">Related reagents</a></p>
<b>Fusion Partners</b>	Lymph node cells from immunised BALB/c mice were fused with cells of the NS0 myeloma cell line
<b>Specificity</b>	<p><b>Mouse anti Pig CD3, clone PPT3</b> recognizes the porcine homologue of human CD3<math>\epsilon</math>, 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<math>\epsilon</math> designated as CD3c (<a href="#">Pescovitz, M.D., et al. 1998</a>).</p> <p>CD3 is a multimeric protein complex composed of four distinct polypeptide chains (<math>\epsilon</math>, <math>\gamma</math>, <math>\delta</math>, <math>\zeta</math>) that assemble and function as three pairs of dimers (<math>\epsilon\gamma</math>, <math>\epsilon\delta</math>, <math>\zeta\zeta</math>). The CD3 complex serves as a T cell co-receptor that associates non-covalently with the T cell receptor (TCR) (<a href="#">Guy, C.S &amp; Vignali, D.G. 2009</a>). 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.</p> <p>Clone PPT3 has been demonstrated to recognise an epitope that is expressed both intracellularly and extracellularly, additionally clone PPT3 has been demonstrated to activate <math>\alpha/\beta</math> T-cells (<a href="#">Kirkham P.A., et al. 1996</a>).</p> <p>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 (<a href="#">Yang, H. et al. 1996</a>).</p>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Yang, H. <i>et al.</i> (1996) Preparation of monoclonal anti-porcine CD3 antibodies and preliminary characterization of porcine T lymphocytes. <a href="#">Immunology. 88 (4): 577-85.</a></li> <li>2. Kirkham, P.A. <i>et al.</i> (1996) Porcine CD3 epsilon: its characterization, expression and involvement in activation of porcine T lymphocytes. <a href="#">Immunology. 87 (4): 616-23.</a></li> <li>3. Pescovitz, M.D. <i>et al.</i> (1998) Analyses of monoclonal antibodies reacting with porcine CD3: results from the Second International Swine CD Workshop. <a href="#">Vet Immunol Immunopathol. 60: 261-8.</a></li> <li>4. Forberg H <i>et al.</i> (2014) Early responses of natural killer cells in pigs experimentally infected with 2009 pandemic H1N1 influenza A virus. <a href="#">PLoS One. 9 (6): e100619.</a></li> <li>5. Uehlein, S. <i>et al.</i> (2021) Human-like Response of Pig T Cells to Superagonistic</li> </ol>

Anti-CD28 Monoclonal Antibodies. [J Immunol. Oct 08 \[Epub ahead of print\]](#).  
6. Zhao, H. *et al.* (2022) Development of *RAG2<sup>-/-</sup> IL2R $\gamma$ <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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