

## Datasheet: MCA5951F

**BATCH NUMBER 160061**

<b>Description:</b>	MOUSE ANTI PIG CD3:FITC
<b>Specificity:</b>	CD3 EPSILON
<b>Format:</b>	FITC
<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	▪			Neat - 1/10

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 conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	FITC	490	525
<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> ) 1% Bovine Serum Albumin		

<b>Approx. Protein Concentrations</b>	IgG concentration 0.1 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 immunized 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. 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>2. Uehlein, S. <i>et al.</i> (2021) Human-like Response of Pig T Cells to Superagonistic Anti-CD28 Monoclonal Antibodies. <a href="#">J Immunol. 207 (10): 2473-88.</a></li> <li>3. Zhao, H. <i>et al.</i> (2022) Development of <i>RAG2</i><sup>-/-</sup> <i>IL2R<math>\gamma</math></i><sup>-/-</sup> immune deficient FAH-knockout miniature pig. <a href="#">Front Immunol. 13: 950194.</a></li> <li>4. Maciag, S.S. <i>et al.</i> (2022) On the influence of the source of porcine colostrum in the development of early immune ontogeny in piglets. <a href="#">Sci Rep. 12 (1): 15630.</a></li> <li>5. dos Santos, M.C. <i>et al.</i> (2023) Effect of yeast extracted <math>\beta</math>-glucans on the immune response and reproductive performance of gilts in the adaptation, gestation, and lactation periods <a href="#">Livestock Science. 275: 105289.</a></li> <li>6. Haach, V. <i>et al.</i> (2023) A polyvalent virosomal influenza vaccine induces broad cellular</li> </ol>

and humoral immunity in pigs. [Virology 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.](#)

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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.](#)

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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. This product is photosensitive and should be protected from light.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA5951F>  
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**Regulatory** For research purposes only

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## Related Products

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:FITC \(MCA928F\)](#)

### Recommended Useful Reagents

[MOUSE ANTI PIG CD4 ALPHA:RPE \(MCA1749PE\)](#)

[MOUSE ANTI PIG wCD8 ALPHA:RPE \(MCA1223PE\)](#)

[MOUSE ANTI PIG CD25 \(MCA1736GA\)](#)

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