

Datasheet: MCA5951PB

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|----------------------|----------------------------------|
| Description: | MOUSE ANTI PIG CD3:Pacific Blue® |
| Specificity: | CD3 EPSILON |
| Format: | Pacific Blue® |
| Product Type: | Monoclonal Antibody |
| Clone: | PPT3 |
| Isotype: | IgG1 |
| Quantity: | 100 TESTS/1ml |

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 | ▪ | | | Neat |

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 conjugated to Pacific Blue - liquid | | |
| Max Ex/Em | Fluorophore | Excitation Max (nm) | Emission Max (nm) |
| | Pacific Blue® | 410 | 455 |
| Preparation | Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant | | |
| Buffer Solution | Phosphate buffered saline | | |
| Preservative Stabilisers | 0.09% Sodium Azide (NaN ₃) | | |
| | 1% Bovine Serum Albumin | | |
| Approx. Protein | IgG concentration 0.05 mg/ml | | |

Concentrations

| | |
|-----------|---------------|
| 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 CD3 ϵ , 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 ϵ 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 ($\epsilon\gamma$, $\epsilon\delta$, $\zeta\zeta$). 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 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*^{-/-} *IL2R γ* ^{-/-} 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.](#)
11. Xie, Q. *et al.* (2025) Immune cell response after intracerebral hemorrhage in piglets and the treatment effects of deferoxamine and minocycline. [Exp Neurol. : 115354. 23 Jun \[Epub ahead of print\].](#)

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

Acknowledgements

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Health And Safety Information

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA5951PB>

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Pacific Blue® \(MCA928PB\)](#)

Recommended Useful Reagents

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

[MOUSE ANTI PIG wCD8 ALPHA:RPE \(MCA1223PE\)](#)
[MOUSE ANTI PIG CD25 \(MCA1736GA\)](#)

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M387824:210726'

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