Datasheet: MCA2261A647

Description:	MOUSE ANTI PIG SLA CLASS I:Alexa Fluor® 647
Specificity:	SLA CLASS I
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	JM1E3
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 - 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.

Target Species

Pig

Species Cross Reactivity

Reacts with: Human

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified IgG conjugated to Alexa Fluor 647 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®647	650	665

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 Concentrations	IgG concentration 0.05 mg/ml
Immunogen	Porcine peripheral blood mononuclear cells.
External Database Links	**UniProt:** O19244 Related reagents
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the mouse SP2/0 - Ag14 myeloma cell line.
Specificity	**Mouse anti Pig SLA Class I antibody, clone JM1E3** recognizes a monomorphic epitope expressed by porcine MHC class I molecules (SLA - 1). SLA - 1 is expressed by all nucleated porcine cells, but not on erythrocytes. This antibody has also been shown to cross-react with human MHC Class I, including HLA-E. (Galiani *et al.* 2002) The major histocompatibility complex (MHC) is a cluster of genes that are important in the immune response to infections. In pigs, this is referred to as the swine leukocyte antigen (SLA) region. Mouse anti pig SLA class I, clone JM1E3 has been reported to block the interaction of MHC Class I antigens with inhibitory NK cell receptors (Galiani *et al.* 2002).
Flow Cytometry	Use 10µl of the suggested working dilution to label 10^6 cells in 100µl
References	1. Galiani, D. *et al.*. (2002) A new monoclonal antibody (JM1E3) specific for porcine SLA Class I antigen recognises HLA Class I antigens and interferes with HLA recognition by human NK inhibitory receptors. In Leucocyte Typing VII. Edited by Mason. D. *et al.*. Oxford University Press pp 437-39. 2. Park, J.Y. *et al.* (2008) Characterization of interaction between porcine reproductive and respiratory syndrome virus and porcine dendritic cells. J Microbiol Biotechnol. 18: 1709-16. 3. Jeong, H.J. *et al.* (2010) Comparative measurement of cell-mediated immune responses of swine to the M and N proteins of porcine reproductive and respiratory syndrome virus. Clin Vaccine Immunol. 17: 503-12. 4. Ding, G. *et al.* (2010) Suppression of T cell proliferation by root apical papilla stem cells in vitro. Cells Tissues Organs. 191: 357-64. 5. Hurtado, C. *et al.* (2011) The African swine fever virus lectin EP153R modulates the surface membrane expression of MHC class I antigens. Arch Virol. 156: 219-34. 6. Van Parys, A. *et al.* (2012) Salmonella Typhimurium induces SPI-1 and SPI-2 regulated and strain dependent downregulation of MHC II expression on porcine alveolar macrophages. Vet Res. 43: 52. 7. Löndt, B.Z. *et al.* (2013) Enhanced infectivity of H5N1 highly pathogenic avian influenza

(HPAI) virus in pig *ex vivo* respiratory tract organ cultures following adaptation by *in vitro* passage. Virus Res. 178(2):383-91.
8. Park, K.M. *et al.* (2013) Generation of porcine induced pluripotent stem cells and evaluation of their major histocompatibility complex protein expression *in vitro*. Vet Res Commun. 37 (4): 293-301.
9. Suarez-Pinzon, W. *et al.* (2015) A Novel Protocol for Culturing Adult Porcine Islets for Transplantation in Type 1 Diabetic Patients Minn Acad Sci J Student Res.3: 1-11.
10. Blázquez, R. *et al.* (2015) Intrapericardial administration of mesenchymal stem cells in a large animal model: a bio-distribution analysis. PLoS One. 10 (3): e0122377.
11. Richmond, O. *et al.* (2015) PD-L1 expression is increased in monocyte derived dendritic cells in response to porcine circovirus type 2 and porcine reproductive and respiratory syndrome virus infections. Vet Immunol Immunopathol. 168 (1-2): 24-9.
12. Iwase H *et al.* (2015) Initial *in vivo* experience of pig artery patch transplantation in baboons using mutant MHC (CIITA-DN) pigs. Transpl Immunol. 32 (2): 99-108.
13. Rayat, G.R. *et al.* (2016) First update of the International Xenotransplantation Association consensus statement on conditions for undertaking clinical trials of porcine islet products in type 1 diabetes - Chapter 3: Porcine islet product manufacturing and release testing criteria. Xenotransplantation. 23 (1): 38-45.
14. Le, T.M. *et al.* (2017) β2-microglobulin gene duplication in cetartiodactyla remains intact only in pigs and possibly confers selective advantage to the species. PLoS One. 12 (8): e0182322.
15. Linard, C. *et al.* (2018) Autologous Bone Marrow Mesenchymal Stem Cells Improve the Quality and Stability of Vascularized Flap Surgery of Irradiated Skin in Pigs. Stem Cells Transl Med. 7 (8): 569-582.
16. Arenal, Á. *et al.* (2022) Effects of Cardiac Stem Cell on Postinfarction Arrhythmogenic Substrate. Int J Mol Sci. 23 (24): 16211.
17. Cheng, W. *et al.* (2025) Endotoxin, not DNA, determines the host response and tissue regeneration behavior of acellular biologic scaffolds. Acta Biomater. S1742-7061(25)00095-9.

Further Reading

1. Piriou-Guzylack, L. (2008) Membrane markers of the immune cells in swine: an update. Vet Res. 39: 54.

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/MCA2261A647 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 647 (MCA928A647)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	**Worldwide**	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	**Europe**	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

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

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