Datasheet: MCA2141A647

Description:	MOUSE ANTI HUMAN CD146:Alexa Fluor® 647
Specificity:	CD146
Other names:	MUC18
Format:	ALEXA FLUOR® 647
Product Type:	Monoclonal Antibody
Clone:	OJ79c
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	▪			

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	Human
Species Cross Reactivity	Reacts with: Pig, Dog **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	Recombinant human MUC18 (D1-D5) Fc protein.
External Database Links	**UniProt:** P43121 Related reagents **Entrez Gene:** 4162 MCAM Related reagents
Synonyms	MUC18
RRID	AB_770078
Fusion Partners	Spleen cells from immunized mice were fused with cells of the mouse Sp2/0 Ag.14 myeloma cell line.
Specificity	**Mouse anti Human CD146 antibody, clone OJ79c** recognizes human Cell surface glycoprotein MUC18, also known as CD146, Cell surface glycoprotein P1H12, Melanoma cell adhesion molecule (MCAM) or S-endo 1 endothelial-associated antigen. CD146 is a 646 amino acid single pass type 1 transmembrane glycoprotein with a calculated molecular mass of ~72 kDa. However due to extensive N-linked glycosylation CD146 migrates in polyacrylamide gels with an apparent molecular mass of ~118 kDa. CD146 is a member of the immunoglobulin superfamily bearing 2 V-type Ig-like and 3 C-type Ig-like domains. CD146 is expressed by all endothelial cells and by melanoma cells and appears to act as an adhesion molecule (UniProt: P43121). Expression in melanoma may be linked to tumor progression (Lehmann *et al.* 1989). Mouse anti Human CD146 antibody, clone OJ79c is highly expressed on pericytes and has been utilized for the identification of perivascular mesenchymal precursor cells from cardiac muscle using flow cytometry (Chen *et al.* 2014).
Flow Cytometry	Use 10µl of the suggested working dilution to label 10^6 cells in 100µl
References	1. Paul, G. *et al.* (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. PLoS One. 7: e35577. 2. Crisan, M. *et al.* (2008) A perivascular origin for mesenchymal stem cells in multiple human organs. Cell Stem Cell. 3: 301-13. 3. Iohara, K. *et al.* (2008) A novel stem cell source for vasculogenesis in ischemia: subfraction of side population cells from dental pulp. Stem Cells. 26 (9): 2408-18. 4. Park, T.S. *et al.* (2010) Placental Perivascular Cells for Human Muscle Regeneration. Stem Cells Dev. 20: 451-63. 5. Smith, K. *et al.* (2011) Mono- and tri-cationic porphyrin-monoclonal antibody conjugates:

photodynamic activity and mechanism of action. Immunology. 132: 256-65.

6. James, A.W. *et al.* (2012) Perivascular stem cells: a prospectively purified mesenchymal stem cell population for bone tissue engineering. Stem Cells Transl Med. 1 (6): 510-9.

7. Wassmer, S.C. *et al.* (2011) Vascular endothelial cells cultured from patients with cerebral or uncomplicated malaria exhibit differential reactivity to TNF. Cell Microbiol. 13: 198-209.

8. Lee, J.H. *et al.* (2012) Generation of osteogenic construct using periosteal-derived osteoblasts and polydioxanone/pluronic F127 scaffold with periosteal-derived CD146 positive endothelial-like cells. J Biomed Mater Res A.101: 942-53.

9. Boneberg, E.M. *et al.* (2009) Soluble CD146 is generated by ectodomain shedding of membrane CD146 in a calcium-induced, matrix metalloprotease-dependent process. Microvasc Res. 78: 325-31.

10. Nielsen, C.T. *et al.* (2011) Distinct features of circulating microparticles and their relationship to clinical manifestations in systemic lupus erythematosus. Arthritis Rheum. 63: 3067-77.

11. Iversen, L.V. *et al.* (2013) A heparin-based method for flow cytometric analysis of microparticles directly from platelet-poor plasma in calcium containing buffer. J Immunol Methods. 388 (1-2): 49-59.

12. Meireles, A.L. *et al.* (2011) Increased levels of circulating endothelial progenitor cells in human T-cell lymphotropic virus type I carriers. Arch Med Res. 42: 34-7.

13. Iversen, L.V. *et al.* (2013) Circulating microparticles and plasma levels of soluble E- and P-selectins in patients with systemic sclerosis. Scand J Rheumatol. 42 (6): 473-82.

14. Murakami, M. *et al.* (2013) The use of granulocyte-colony stimulating factor induced mobilization for isolation of dental pulp stem cells with high regenerative potential. Biomaterials. pii: S0142-9612(13)00942-3.

15. Ruetze, M. *et al.* (2013) A novel niche for skin derived precursors in non-follicular skin. J Dermatol Sci. 69: 132-9.

16. Dokić, J. *et al.* (2013) Mesenchymal stem cells from periapical lesions modulate differentiation and functional properties of monocyte-derived dendritic cells. Eur J Immunol. 43: 1862-72.

17. Chen, W.C. *et al.* (2015) Human myocardial pericytes: multipotent mesodermal precursors exhibiting cardiac specificity. Stem Cells. 33 (2): 557-73.

18. Iversen, L.V. *et al.* (2015) Cross-sectional study of soluble selectins, fractions of circulating microparticles and their relationship to lung and skin involvement in systemic sclerosis. BMC Musculoskelet Disord. 16: 191.

19. Tawonsawatruk T *et al.* (2016) Adipose derived pericytes rescue fractures from a failure of healing - non-union. Sci Rep. 6: 22779.

20. Boissier, R. *et al.* (2016) Histologic and urodynamic effects of autologous stromal vascular fraction extracted from fat tissue with minimal *ex vivo* manipulation on a porcine model of intrinsic sphincter deficiency J Urology. Jun 2 [Epub ahead of print]

21. Esteves, C.L. *et al.* (2017) Equine Mesenchymal Stromal Cells Retain a Pericyte-Like Phenotype. Stem Cells Dev. 26 (13): 964-72.

22. Stefanska, A. *et al.* (2016) Human kidney pericytes produce renin. Kidney Int. 90 (6): 1251-61.

23. Lapin, M. *et al.* (2016) MINDEC-An Enhanced Negative Depletion Strategy for Circulating Tumour Cell Enrichment. Sci Rep. 6: 28929.

24. Muerza-Cascante, M.L. *et al.* (2016) Endosteal-like extracellular matrix expression on melt electrospun written scaffolds. Acta Biomater. pii: S1742-7061(16)30706-1.

25. Eliasberg, C.D. *et al.* (2017) Perivascular Stem Cells Diminish Muscle Atrophy Following Massive Rotator Cuff Tears in a Small Animal Model. J Bone Joint Surg Am. 99 (4): 331-41.

26. James, A.W. *et al.* (2017) Isolation and characterization of canine perivascular stem/stromal cells for bone tissue engineering. PLoS One. 12 (5): e0177308.

27. Shen, J. *et al.* (2018) Effects of WNT3A and WNT16 on the Osteogenic and Adipogenic Differentiation of Perivascular Stem/Stromal Cells. Tissue Eng Part A. 24 (1-2): 68-80.

28. Lapin, M. *et al.* (2017) Single-cell mRNA profiling reveals transcriptional heterogeneity among pancreatic circulating tumour cells. BMC Cancer. 17 (1): 390.

29. Esteves, C.L. *et al.* (2017) Isolation and characterization of equine native MSC populations. Stem Cell Res Ther. 8 (1): 80.

30. Gaceb, A. *et al.* (2017) Pericytes secrete pro-regenerative molecules in response to platelet-derived growth factor-BB. J Cereb Blood Flow Metab. : 271678X17719645.

31. Noda, S. *et al.* (2019) Effect of cell culture density on dental pulp-derived mesenchymal stem cells with reference to osteogenic differentiation. Sci Rep. 9 (1): 5430.

32. Gaceb, A. *et al.* (2020) An *In Vitro.* Partial Lesion Model of Differentiated Human Mesencephalic Neurons: Effect of Pericyte Secretome on Phenotypic Markers. J Mol Neurosci. 70 (11): 1914-25.

33. Stefanska, A. *et al.* (2021) Role of Pericytes in the Development of the Renin/Angiotensin System: Induction of Functional Renin in Cultures of Pericytes. Methods Mol Biol. 2235: 169-180.

34. Orikasa, S. *et al.* (2022) Hypoxia-inducible factor 1α induces osteo/odontoblast differentiation of human dental pulp stem cells via Wnt/β-catenin transcriptional cofactor BCL9. Sci Rep. 12 (1): 682.

35. Menon, R. *et al.* (2023) Human Induced Pluripotent Stem Cell-Derived Pericytes as Scalable and Editable Source to Study Direct Lineage Reprogramming Into Induced Neurons. Cell Reprogram. 25 (5): 212-23.

36. Molinos, M. *et al.* (2023) Alterations of bovine nucleus pulposus cells with aging. Aging Cell. 22 (8): e13873.

37. An, H.J. *et al.* (2021) Pro-Angiogenic and Osteogenic Effects of Adipose Tissue-Derived Pericytes Synergistically Enhanced by Nel-like Protein-1. Cells. 10 (9): 2244.

38. Mendoza-Zambrano, E. *et al.* (2025) Role of Extracellular Vesicles in Chronic Post-Embolic Pulmonary Hypertension: Data from an Experimental Animal Model and Patients. Biomedicines. 13 (6): 1499.

Further Reading

1. Kuzu, I. *et al.* (1993) Expression of adhesion molecules on the endothelium of normal tissue vessels and vascular tumors. Lab Invest. 69 (3): 322-8.

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

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/MCA2141A647
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

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

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

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

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