

**SM1860PS****Monoclonal Antibody to CD146 - Purified**

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| <b>Alternate names:</b>              | A32, CD146, Cell surface glycoprotein P1H12, MCAM, MUC18, Melanoma cell adhesion molecule, Melanoma-associated antigen MUC18, S-endo 1 endothelial-associated antigen                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Quantity:</b>                     | 0.1 mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Concentration:</b>                | 0.2 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Background:</b>                   | The Human Mel-CAM gene maps to chromosome 11q23 and encodes a trans-membrane glycoprotein, also designated MCAM, MUC18 or CD146, that belongs to the immunoglobulin superfamily and functions as a Ca <sup>2+</sup> -independent cell adhesion molecule. Mel-CAM expression is restricted to advanced primary and metastatic melanomas and to cell lines of the neuroectodermal lineage, but not normal melanocytes. Mel-CAM is found on 80% of advanced primary human melanomas and correlates well with development of metastatic disease.           |
| <b>Uniprot ID:</b>                   | <a href="#">P43121</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>NCBI:</b>                         | <a href="#">NP_006491.2</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>GeneID:</b>                       | <a href="#">4162</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Host / Isotype:</b>               | Rat / IgG1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Recommended Isotype Controls:</b> | SM25P, SM25PX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Clone:</b>                        | OJ79c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Immunogen:</b>                    | Recombinant Human MUC18 protein.<br><b>Genename:</b> MCAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Format:</b>                       | <b>State:</b> Liquid purified IgG fraction from Bioreactor Concentrate<br><b>Purification:</b> Protein A/G Chromatography<br><b>Buffer System:</b> 10mM PBS<br><b>Preservatives:</b> 0.05% Sodium Azide<br><b>Stabilizers:</b> 0.05% BSA                                                                                                                                                                                                                                                                                                               |
| <b>Applications:</b>                 | <b>ELISA:</b> Use BSA free antibody for coating.<br><b>Flow Cytometry:</b> 0.5-1 µg/10 <sup>6</sup> cells.<br><b>Immunofluorescence:</b> 0.5-1 µg/ml.<br><b>Western Blot:</b> 0.5-1 µg/ml.<br><b>Immunoprecipitation:</b> 1-2 µg/500 µg protein lysate.<br><b>Immunohistochemistry on Frozen Sections:</b> 0.5-1 µg/ml for 30 minutes at RT.<br><b><u>Positive Control:</u></b> A-375, HUV-EC or HeLa Cells, Tonsil or Melanoma.<br>Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user. |
| <b>Molecular Weight:</b>             | 130 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Specificity:</b>                  | This antibody recognises the 118kD cell surface glycoprotein CD146.<br><b><u>Cellular Localization:</u></b> Cell surface.                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Species Reactivity:**
**Tested:** Human.

**Storage:**

Store undiluted at 2-8°C.

**DO NOT FREEZE!**

Shelf life: one year from despatch.

**General Readings:**

1. Pruszk J, Sonntag KC, Aung MH, Sanchez-Pernaute R, Isacson O. Markers and methods for cell sorting of human embryonic stem cell-derived neural cell populations. *Stem Cells*. 2007 Sep;25(9):2257-68. Epub 2007 Jun 21. PubMed PMID: 17588935.
2. Paul G, Özen I, Christophersen NS, Reinbothe T, Bengzon J, Visse E, et al. The adult human brain harbors multipotent perivascular mesenchymal stem cells. *PLoS One*. 2012;7(4):e35577. doi: 10.1371/journal.pone.0035577. Epub 2012 Apr 16. PubMed PMID: 22523602.
3. Crisan M, Yap S, Casteilla L, Chen CW, Corselli M, Park TS, et al. A perivascular origin for mesenchymal stem cells in multiple human organs. *Cell Stem Cell*. 2008 Sep 11;3(3):301-13. doi: 10.1016/j.stem.2008.07.003. PubMed PMID: 18786417.
4. Iohara K, Zheng L, Wake H, Ito M, Nabekura J, Wakita H, et al. A novel stem cell source for vasculogenesis in ischemia: subfraction of side population cells from dental pulp. *Stem Cells*. 2008 Sep;26(9):2408-18. doi: 10.1634/stemcells.2008-0393. Epub 2008 Jun 26. PubMed PMID: 18583536.
5. Park, T.S. et al. (2010) Placental Perivascular Cells for Human Muscle Regeneration. *Stem Cells Dev*. Oct 5. [Epub ahead of print]
6. Smith K, Malatesti N, Cauchon N, Hunting D, Lecomte R, van Lier JE, et al. Mono- and tri-cationic porphyrin-monoclonal antibody conjugates: photodynamic activity and mechanism of action. *Immunology*. 2011 Feb;132(2):256-65. doi: 10.1111/j.1365-2567.2010.03359.x. Epub 2010 Oct 29. PubMed PMID: 21039468.
7. James AW, Zara JN, Zhang X, Askarinam A, Goyal R, Chiang M, et al. Perivascular stem cells: a prospectively purified mesenchymal stem cell population for bone tissue engineering. *Stem Cells Transl Med*. 2012 Jun;1(6):510-9. doi: 10.5966/sctm.2012-0002. Epub 2012 Jun 11. PubMed PMID: 23197855.
8. Wassmer SC, Moxon CA, Taylor T, Grau GE, Molyneux ME, Craig AG. Vascular endothelial cells cultured from patients with cerebral or uncomplicated malaria exhibit differential reactivity to TNF. *Cell Microbiol*. 2011 Feb;13(2):198-209. doi: 10.1111/j.1462-5822.2010.01528.x. Epub 2010 Oct 7. PubMed PMID: 21029292.
9. 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. *Journal of Biomedical Materials Research Part A*. Sep 8. [Epub ahead of print]
10. Boneberg EM, Illges H, Legler DF, Fürstenberger G. Soluble CD146 is generated by ectodomain shedding of membrane CD146 in a calcium-induced, matrix metalloprotease-dependent process. *Microvasc Res*. 2009 Dec;78(3):325-31. doi: 10.1016/j.mvr.2009.06.012. Epub 2009 Jul 15. PubMed PMID: 19615385.
11. Murakami M, Imabayashi K, Watanabe A, Takeuchi N, Ishizaka R, Iohara K, et al. Identification of novel function of vimentin for quality standard for regenerated pulp tissue. *J Endod*. 2012 Jul;38(7):920-6. doi: 10.1016/j.joen.2012.01.010. Epub 2012 Mar 15. PubMed PMID: 22703654.
12. Nielsen CT, Østergaard O, Johnsen C, Jacobsen S, Heegaard NH. Distinct features

- of circulating microparticles and their relationship to clinical manifestations in systemic lupus erythematosus. *Arthritis Rheum.* 2011 Oct;63(10):3067-77. doi: 10.1002/art.30499. PubMed PMID: 21702008.
13. Zhang Y, Fisher N, Newey SE, Smythe J, Tatton L, Tsaknakis G, et al. The impact of proliferative potential of umbilical cord-derived endothelial progenitor cells and hypoxia on vascular tubule formation in vitro. *Stem Cells Dev.* 2009 Mar;18(2):359-75. doi: 10.1089/scd.2008.0071. PubMed PMID: 18662129.
14. Iversen, L.V. et al. (2012) A heparin-based method for flow cytometric analysis of microparticles directly from platelet-poor plasma in calcium containing buffer. *Journal of Immunological Methods* Dec 12 [Epub ahead of print]
15. Meireles AL, Hallack Neto AE, Costa Rde O, Pereira J. Increased levels of circulating endothelial progenitor cells in human T-cell lymphotropic virus type I carriers. *Arch Med Res.* 2011 Jan;42(1):34-7. doi: 10.1016/j.arcmed.2011.01.002. PubMed PMID: 21376260.
16. Iversen, L. et al. (2013) Circulating microparticles and plasma levels of soluble E- and P-selectins in patients with systemic sclerosis. *Scand J Rheumatol.* Sep 9. [Epub ahead of print]
17. 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.
18. Ruetze M, Knauer T, Gallinat S, Wenck H, Achterberg V, Maerz A, et al. A novel niche for skin derived precursors in non-follicular skin. *J Dermatol Sci.* 2013 Feb;69(2):132-9. doi: 10.1016/j.jdermsci.2012.10.007. Epub 2012 Oct 26. PubMed PMID: 23148930.
19. Dokić J, Tomić S, Marković M, Milosavljević P, Colić M. Mesenchymal stem cells from periapical lesions modulate differentiation and functional properties of monocyte-derived dendritic cells. *Eur J Immunol.* 2013 Jul;43(7):1862-72. doi: 10.1002/eji.201243010. Epub 2013 May 28. PubMed PMID: 23616249.