

# PECAM-1 (ER-MP12): sc-52713

## BACKGROUND

Cell adhesion molecules are a family of closely related cell surface glycoproteins involved in cell-cell interactions during growth and are thought to play an important role in embryogenesis and development. Neuronal cell adhesion molecule (NCAM) expression is observed in a variety of human tumors including neuroblastomas, rhabdomyosarcomas, Wilm's tumors, Ewing's sarcomas and some primitive myeloid malignancies. The intracellular adhesion molecule-1 (ICAM-1), also referred to as CD54, is an integral membrane protein of the immunoglobulin superfamily and recognizes the B2 $\alpha$ 1 and B2 $\alpha$ M integrins. PECAM-1 (platelet/endothelial cell adhesion molecule-1), also referred to as CD31, is a glycoprotein expressed on the cell surfaces of monocytes, neutrophils, platelets and a subpopulation of T cells. VCAM-1 (vascular cell adhesion molecule-1) was first identified as an adhesion molecule induced on human endothelial cells by inflammatory cytokines such as IL-1, tumor necrosis factor (TNF) and lipopolysaccharide (LPS). The KALIG gene encodes a nerve cell adhesion molecule (NCAM)-like protein and is deleted in 66% of patients with Kallmann's syndrome, anosmia with secondary hypogonadism.

## REFERENCES

1. Patel, K., et al. 1993. Vase mini-exon usage by NCAM is not restricted to tumours of neuroectodermal origin. *Int. J. Cancer* 54: 772-777.
2. Cowen, M.A. et al. 1993. The Kallmann's syndrome variant (KSV) model of the schizophrenias. *Schizophr. Res.* 9: 1-10.
3. Buck, C.A., et al. 1994. Cell adhesion receptors and early mammalian heart development: an overview. *C. R. Acad. Sci. III, Sci. Vie* 316: 838-859.
4. DeLisser, H.M., et al. 1994. Platelet endothelial cell adhesion molecule (CD31). *Curr. Top. Microbiol. Immunol.* 184: 37-45.
5. Jorgensen, O.S. 1995. Neural cell adhesion molecule (NCAM) as a quantitative marker in synaptic remodeling. *Neurochem. Res.* 20: 533-547.
6. Edelman, G.M., et al. 1995. Developmental control of N-CAM expression by HOX and PAX gene products. *Philos. Trans. R. Soc. Lond., B, Biol. Sci.* 349: 305-312.
7. Dominici, C., et al. 1996. Bone marrow micrometastases in a patient with localized Wilm's tumor. *Med. Pediatr. Oncol.* 26: 125-128.
8. Briskin, M.J., et al. 1996. Structural requirements for mucosal vascular addressin binding to its lymphocyte receptor  $\alpha$ 4 $\beta$ 7. Common themes among integrin-Ig family interactions. *J. Immunol.* 156: 719-726.
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## CHROMOSOMAL LOCATION

Genetic locus: Pecam1 (mouse) mapping to 11 E1.

## SOURCE

PECAM-1 (ER-MP12) is a rat monoclonal antibody raised against macrophage precursor cells of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PECAM-1 (ER-MP12) is available conjugated to either phycoerythrin (sc-52713 PE) or fluorescein (sc-52713 FITC), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

PECAM-1 (ER-MP12) is recommended for detection of PECAM-1 of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for PECAM-1 siRNA (m): sc-29446, PECAM-1 shRNA Plasmid (m): sc-29446-SH and PECAM-1 shRNA (m) Lentiviral Particles: sc-29446-V.

Molecular Weight of PECAM-1: 130 kDa.

## SELECT PRODUCT CITATIONS

1. Wei, C., et al. 2008. Modification of kidney barrier function by the urokinase receptor. *Nat. Med.* 14: 55-63.
2. Daleprane, J.B., et al. 2012. Anti-atherogenic and anti-angiogenic activities of polyphenols from propolis. *J. Nutr. Biochem.* 23: 557-566.
3. Xu, J., et al. 2016. Endothelial-like cells differentiated from mesenchymal stem cells attenuate neointimal hyperplasia after vascular injury. *Mol. Med. Rep.* 14: 4830-4836.
4. Li, Q., et al. 2017. VEGF treatment promotes bone marrow-derived CXCR4<sup>+</sup> mesenchymal stromal stem cell differentiation into vessel endothelial cells. *Exp. Ther. Med.* 13: 449-454.
5. Nakamura, N., et al. 2018. Chemerin promotes angiogenesis *in vivo*. *Physiol. Rep.* 6: e13962.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **PECAM-1 (H-3): sc-376764** for PECAM-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.