

# PECAM-1 (RM0032-1D12): sc-101454

## 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, Wilms' 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  $\beta 2/\alpha 1$  and  $\beta 2/\alpha M$  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

- 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.
- Cowen, M.A. and Green, M. 1993. The Kallmann's syndrome variant (KSV) model of the schizophrenias. *Schizophr. Res.* 9: 1-10.
- Buck, C.A., et al. 1993. Cell adhesion receptors and early mammalian heart development: an overview. *C. R. Acad. Sci. III* 316: 838-859.
- DeLisser, H.M., et al. 1993. Platelet endothelial cell adhesion molecule (CD31). *Curr. Top. Microbiol. Immunol.* 184: 37-45.
- Jorgensen, O.S. 1995. Neural cell adhesion molecule (NCAM) as a quantitative marker in synaptic remodeling. *Neurochem. Res.* 20: 533-547.
- Edelman, G.M. and Jones, F.S. 1995. Developmental control of NCAM expression by Hox and Pax gene products. *Philos. Trans. R. Soc. Lond., B, Biol. Sci.* 349: 305-312.
- Dominici, C., et al. 1996. Bone marrow micrometastases in a patient with localized Wilms' tumor. *Med. Pediatr. Oncol.* 26: 125-128.

## CHROMOSOMAL LOCATION

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

## SOURCE

PECAM-1 (RM0032-1D12) is a rat monoclonal antibody raised against endothelial membrane protein of mouse origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

PECAM-1 (RM0032-1D12) is recommended for detection of PECAM-1 of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

- Cui, Z.Y., et al. 2009. Modest anti-cancer activity of a bile acid acylated heparin derivative in a PC14PE6 induced orthotopic lung cancer model. *Cancer Res. Treat.* 41: 80-86.
- Harrell, J.C., et al. 2014. Endothelial-like properties of claudin-low breast cancer cells promote tumor vascular permeability and metastasis. *Clin. Exp. Metastasis* 31: 33-45.
- Redig, J.K., et al. 2014. Allelic interaction between CRELD1 and VEGFA in the pathogenesis of cardiac atrioventricular septal defects. *AIMS Genet.* 1: 1-19.
- García-Quiroz, J., et al. 2014. Calcitriol reduces thrombospondin-1 and increases vascular endothelial growth factor in breast cancer cells: implications for tumor angiogenesis. *J. Steroid Biochem. Mol. Biol.* 144A: 215-222.
- Prieto-Vila, M., et al. 2016. iPSC-derived cancer stem cells provide a model of tumor vasculature. *Am. J. Cancer Res.* 6: 1906-1921.
- Kowalewska, P.M., et al. 2016. Syndecan-1 (CD138) deficiency increases *Staphylococcus aureus* infection but has no effect on pathology in a mouse model of peritoneal dialysis. *J. Biomed. Sci.* 23: 20.
- Konrad, F.M., et al. 2019. How adhesion molecule patterns change while neutrophils traffic through the lung during inflammation. *Mediators Inflamm.* 2019: 1208086.
- McLaughlin, S., et al. 2019. Injectable human recombinant collagen matrices limit adverse remodeling and improve cardiac function after myocardial infarction. *Nat. Commun.* 10: 4866.
- Sugita, S., et al. 2021. Involvement of cancer-derived EMT cells in the accumulation of 18F-fluorodeoxyglucose in the hypoxic cancer microenvironment. *Sci. Rep.* 11: 9668.

## RESEARCH USE

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

## CONJUGATES

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