

CD34 (CBR-E8): sc-52478

BACKGROUND

CD34 is a heavily glycosylated, transmembrane glycoprotein that is expressed on the surface of lymphohematopoietic stem and progenitor cells, small-vessel endothelial cells, embryonic fibroblasts and some cells in fetal and adult nervous tissue. CD34 antigen expression is highest in the most primitive stem cells and is gradually lost as lineage committed progenitors differentiate. The CD34 antigen is also present on capillary endothelial cells and on bone marrow stromal cells. The CD34 cytoplasmic domain has an intracellular domain that contains consensus sites for activated protein kinase C (PKC) phosphorylation as well as serine, threonine and tyrosine phosphorylation consensus sites.

REFERENCES

1. Buck, C.A., et al. 1994. Cell adhesion receptors and early mammalian heart development: an overview. *C. R. Acad. Sci. III* 316: 838-859.
2. DeLisser, H.M., et al. 1994. Platelet endothelial cell adhesion molecule (CD31). *Curr. Top. Microbiol. Immunol.* 184: 37-45.
3. Krause, D.S., et al. 1994. Characterization of murine CD34, a marker for hematopoietic progenitor and stem cells. *Blood* 84: 691-701.
4. Holyoake, T.L. and Alcorn, M.J. 1994. CD34⁺ positive haemopoietic cells: biology and clinical applications. *Blood Rev.* 8: 113-124.
5. Lin, G., et al. 1995. Expression of CD34 in endothelial cells, hematopoietic progenitors and nervous cells in fetal and adult mouse tissues. *Eur. J. Immunol.* 25: 1508-1516.
6. Lasky, L.A. 1995. Selectin-carbohydrate interactions and the initiation of the inflammatory response. *Annu. Rev. Biochem.* 64: 113-139.
7. Drew, E., et al. 2005. CD34 and CD43 inhibit mast cell adhesion and are required for optimal mast cell reconstitution. *Immunity* 22: 43-57.
8. Young, M.R. and Cigal, M. 2005. Tumor skewing of CD34⁺ cell differentiation from a dendritic cell pathway into endothelial cells. *Cancer Immunol. Immunother.* 55: 558-568.

CHROMOSOMAL LOCATION

Genetic locus: Cd34 (mouse) mapping to 1 H6.

SOURCE

CD34 (CBR-E8) is a rat monoclonal antibody raised against recombinant CD34 of mouse origin.

PRODUCT

Each vial contains 200 µg IgM 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.

RESEARCH USE

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

APPLICATIONS

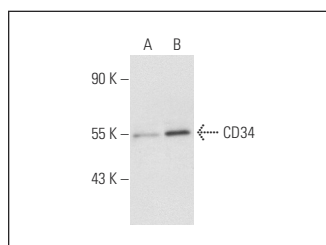
CD34 (CBR-E8) is recommended for detection of CD34 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CD34 siRNA (m): sc-29993, CD34 shRNA Plasmid (m): sc-29993-SH and CD34 shRNA (m) Lentiviral Particles: sc-29993-V.

Molecular Weight of glycosylated CD34: 90-120 kDa.

Positive Controls: CD34 (h2): 293T Lysate: sc-174868, NIH/3T3 whole cell lysate: sc-2210 or rat kidney extract: sc-2394.

DATA



CD34 (CBR-E8): sc-52478. Western blot analysis of CD34 expression in non-transfected: sc-117752 (A) and human CD34 transfected: sc-174868 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tigerstedt, N.M., et al. 2009. Vascular cell kinetics in response to intimal injury *ex vivo*. *J. Vasc. Res.* 47: 35-44.
2. Jia, Y., et al. 2009. Erythropoietin signaling promotes transplanted progenitor cell survival. *FASEB J.* 23: 3089-3099.
3. Ankersmit, H.J., et al. 2009. Irradiated cultured apoptotic peripheral blood mononuclear cells regenerate infarcted myocardium. *Eur. J. Clin. Invest.* 39: 445-456.
4. Dai, J., et al. 2012. Role of plasma kallikrein-kinin system activation in synovial recruitment of endothelial progenitor cells in experimental arthritis. *Arthritis Rheum.* 64: 3574-3582.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **CD34 (B-6): sc-74499** for CD34 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.