SANTA CRUZ BIOTECHNOLOGY, INC.

CD34 (TUK3): sc-19587

The Power to Question

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. Holyoake, T.L. and Alcorn, M.J. 1994. CD34+ positive haemopoietic cells: biology and clinical applications. Blood Rev. 8: 113-124.
2. DeLisser, H.M., et al. 1994. Platelet endothelial cell adhesion molecule (CD31). Curr. Top. Microbiol. Immunol. 184: 37-45.

CHROMOSOMAL LOCATION

Genetic locus: CD34 (human) mapping to 1q32.2.

SOURCE

CD34 (TUK3) is a mouse monoclonal antibody raised against KG-1 cells.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD34 (TUK3) is available conjugated to either phycoerythrin (sc-19587 PE) or fluorescein (sc-19587 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD34 (TUK3) is recommended for detection of the class III CD34 epitope (which is resistant to neuraminidase, chymopapain and glycoprotease) of human 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)], 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 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD34 siRNA (h): sc-29249, CD34 shRNA Plasmid (h): sc-29249-SH and CD34 shRNA (h) Lentiviral Particles: sc-29249-V.

Molecular Weight of glycosylated CD34: 90-120 kDa.

Positive Controls: TF-1 cell lysate: sc-2412, HeLa whole cell lysate: sc-2200 or Hs68 cell lysate: sc-2230.

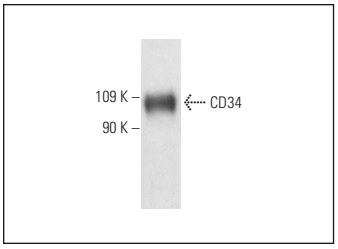
STORAGE

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

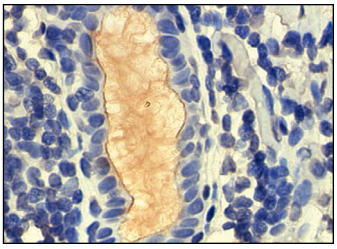
RESEARCH USE

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

DATA



CD34 (TUK3): sc-19587. Western blot analysis of CD34 expression in TF-1 whole cell lysate.



CD34 (TUK3): sc-19587. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing membrane stain of endothelial cells.

SELECT PRODUCT CITATIONS

1. Nowicki, M., et al. 2008. Vascular endothelial growth factor (VEGF)-C—a potent risk factor in children diagnosed with stadium 4 neuroblastoma. Folia Histochem. Cytobiol. 46: 493-499.
2. Hassan, M., et al. 2009. Hepatitis C virus core protein triggers hepatic angiogenesis by a mechanism including multiple pathways. Hepatology 49: 1469-1482.
3. Xia, T.S., et al. 2010. Human tissue-specific microenvironment: an essential requirement for mouse models of breast cancer. Oncol. Rep. 24: 203-211.
4. Chaves, K.C., et al. 2012. Endostatin gene therapy stimulates upregulation of ICAM-1 and VCAM-1 in a metastatic renal cell carcinoma model. Cancer Gene Ther. 19: 558-565.
5. Ji, J., et al. 2013. The frequency of tumor-infiltrating Tie-2-expressing monocytes in renal cell carcinoma: its relationship to angiogenesis and progression. Urology 82: 974.e9-13.
6. Kakar, S.S., et al. 2014. Withaferin a alone and in combination with cisplatin suppresses growth and metastasis of ovarian cancer by targeting putative cancer stem cells. PLoS ONE 9: e107596.
7. Shi, Z., et al. 2015. Comparison of flowcytometric and immunocytochemistry analysis of stem cell surface markers. J. Biol. Sci. 15: 1-5.
8. Yu, Z., et al. 2016. Notch1 is associated with the differentiation of human bone marrow-derived mesenchymal stem cells to cardiomyocytes. Mol. Med. Rep. 14: 5065-5071.
9. Liu, S., et al. 2021. Periostin regulates osteogenesis of mesenchymal stem cells from ovariectomized rats through actions on the ILK/Akt/GSK-3β axis. Genet. Mol. Biol. 44: e20200461.