SANTA CRUZ BIOTECHNOLOGY, INC.

Flt-4 (D-6): sc-28297

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Three cell membrane receptor tyrosine kinases, Flt (also designated VEGF-R1), Flk-1 (also designated VEGF-R2) and Flt-4 (also designated VEGF-R3), putatively involved in the growth of endothelial cells, are characterized by the presence of seven immunoglobulin-like sequences in their extracellular domain. These receptors exhibit high degrees of sequence relatedness to each other as well as lesser degrees of relatedness to the class III receptors including CSF-1/Fms, PDGR, SLFR/Kit and Flt-3/Flk-2. Two members of this receptor class, Flt-1 and Flk-1, have been shown to represent high affinity receptors for vascular endothelial growth factors (VEGFs). On the basis of structural similarity to Flt and Flk-1, it has been speculated that Flt-4 might represent a third receptor for either VEGF or a VEGF-related ligand.

CHROMSOMAL LOCATION

Genetic locus: FLT4 (human) mapping to 5q35.3.

SOURCE

Flt-4 (D-6) is a mouse monoclonal antibody raised against amino acids 8-240 of Flt-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Flt-4 (D-6) is available conjugated to agarose (sc-28297 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28297 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28297 PE), fluorescein (sc-28297 FITC), Alexa Fluor® 488 (sc-28297 AF488), Alexa Fluor® 546 (sc-28297 AF546), Alexa Fluor® 594 (sc-28297 AF594) or Alexa Fluor® 647 (sc-28297 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28297 AF680) or Alexa Fluor® 790 (sc-28297 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Flt-4 (D-6) is recommended for detection of Flt-4 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Flt-4 siRNA (h): sc-35397, Flt-4 shRNA Plasmid (h): sc-35397-SH and Flt-4 shRNA (h) Lentiviral Particles: sc-35397-V.

Molecular Weight of Flt-4: 150 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, K-562 whole cell lysate: sc-2203 or MES-SA/Dx5 cell lysate: sc-2284.

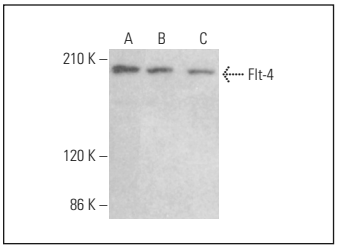
STORAGE

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

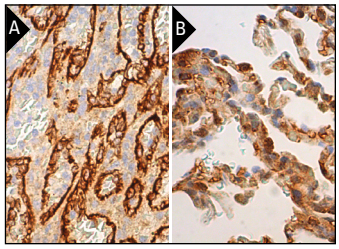
RESEARCH USE

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

DATA



Flt-4 (D-6): sc-28297. Western blot analysis of Flt-4 expression in HEL 92.1.7 (**A**), K-562 (**B**) and MES-SA/Dx5 (**C**) whole cell lysates.



Flt-4 (D-6): sc-28297. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of endothelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic staining pneumocytes and macrophages (**B**).

SELECT PRODUCT CITATIONS

1. Su, J.L., et al. 2006. The VEGF-C/Flt-4 axis promotes invasion and metastasis of cancer cells. Cancer Cell 9: 209-223.
2. Sase, H., et al. 2009. VEGFR2-PLCγ1 axis is essential for endothelial specification of VEGFR2+ vascular progenitor cells. J. Cell Sci. 122: 3303-3311.
3. Pan, M.R., et al. 2009. Sumoylation of Prox1 controls its ability to induce VEGFR3 expression and lymphatic phenotypes in endothelial cells. J. Cell Sci. 122: 3358-3364.
4. Siegfried, J.M., et al. 2012. Combining the multitargeted tyrosine kinase inhibitor vandetanib with the antiestrogen fulvestrant enhances its antitumor effect in non-small cell lung cancer. J. Thorac. Oncol. 7: 485-495.
5. Spinella, F., et al. 2013. Endothelin-1 induces the transactivation of vascular endothelial growth factor receptor-3 and modulates cell migration and vasculogenic mimicry in melanoma cells. J. Mol. Med. 91: 395-405.
6. Zakaria, N., et al. 2014. Results of a phase I/II clinical trial: standardized, non-xenogenic, cultivated limbal stem cell transplantation. J. Transl. Med. 12: 58.
7. Castañeda-Cabral, J.L., et al. 2018. Increased protein expression of VEGF-A, VEGF-B, VEGF-C and their receptors in the temporal neocortex of pharmacoresistant temporal lobe epilepsy patients. J. Neuroimmunol. 328: 68-72.
8. Ho, J.N., et al. 2019. Multikinase inhibitor motesanib enhances the antitumor effect of cisplatin in cisplatin-resistant human bladder cancer cells via apoptosis and the PI3K/Akt pathway. Oncol. Rep. 41: 2482-2490.
9. Yao, W., et al. 2023. Exosomal circ_0026611 contributes to lymphangiogenesis by reducing PROX1 acetylation and ubiquitination in human lymphatic endothelial cells (HLECs). Cell. Mol. Biol. Lett. 28: 13.

PROTOCOLS

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