VEGFR1 (D-2): sc-271789

SANTA CRUZ®
BIOTECHNOLOGY

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BACKGROUND

Three cell membrane receptor tyrosine kinases, Flt-1 (also designated VEGF-R1), Flk-1 (also designated VEGF-R2) and Flt-4, 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-1 and Flk-1, it has been speculated that Flt-4 might represent a third receptor for either VEGF or a VEGF-related ligand.

CHROMOSOMAL LOCATION

Genetic locus: FLT1 (human) mapping to 13q12.2.

SOURCE

VEGFR1 (D-2) is a mouse monoclonal antibody raised against amino acids 23-247 of VEGFR1 of human origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VEGFR1 (D-2) is available conjugated to agarose (sc-271789 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271789 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271789 PE), fluorescein (sc-271789 FITC), Alexa Fluor® 488 (sc-271789 AF488), Alexa Fluor® 546 (sc-271789 AF546), Alexa Fluor® 594 (sc-271789 AF594) or Alexa Fluor® 647 (sc-271789 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271789 AF680) or Alexa Fluor® 790 (sc-271789 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

VEGFR1 (D-2) is recommended for detection of VEGFR1 of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VEGFR1 siRNA (h): sc-29319, VEGFR1 shRNA Plasmid (h): sc-29319-SH and VEGFR1 shRNA (h) Lentiviral Particles: sc-29319-V.

Molecular Weight of VEGFR1: 180 kDa.

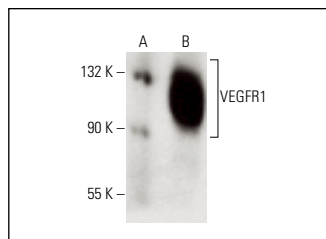Positive Controls: VEGFR1 (h): 293T Lysate: sc-115518 or MDA-MB-231 cell lysate: sc-2232.

STORAGE

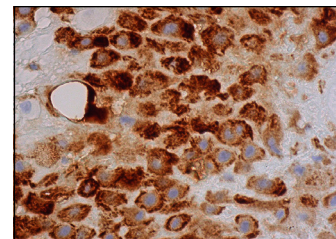Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

DATA

VEGFR1 (D-2): sc-271789. Western blot analysis of VEGFR1 expression in non-transfected: sc-117752 (**A**) and human VEGFR1 transfected: sc-115518 (**B**) 293T whole cell lysates.

VEGFR1 (D-2): sc-271789. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells.

SELECT PRODUCT CITATIONS

1. Tang, C., et al. 2013. Expression of SHP2 and related markers in non-small cell lung cancer: a tissue microarray study of 80 cases. Appl. Immunohistochem. Mol. Morphol. 21: 386-394.

2. Fernández-Guizán, A., et al. 2015. Pleiotropic anti-angiogenic and anti-oncogenic activities of the novel mithralog demycarosyl-3D-β-D-digitoxosyl-mithramycin SK (EC-8042). PLoS ONE 10: e0140786.

3. Atzori, M.G., et al. 2017. The anti-vascular endothelial growth factor receptor-1 monoclonal antibody D16F7 inhibits invasiveness of human glioblastoma and glioblastoma stem cells. J. Exp. Clin. Cancer Res. 36: 106.

4. Zhang, L., et al. 2018. MicroRNA-134 inhibits osteosarcoma angiogenesis and proliferation by targeting the VEGFA/VEGFR1 pathway. FEBS J. 285: 1359-1371.

5. Hori, A., et al. 2019. Vasculogenic mimicry is associated with trastuzumab resistance of HER2-positive breast cancer. Breast Cancer Res. 21: 88.

6. Atzori, M.G., et al. 2020. Role of VEGFR-1 in melanoma acquired resistance to the BRAF inhibitor vemurafenib. J. Cell. Mol. Med. 24: 465-475.

7. Li, G.X., et al. 2021. Tetraspanin18 regulates angiogenesis through VEGFR2 and Notch pathways. Biol. Open 10: bio050096.

8. Lee, J., et al. 2022. Differential dependency of human glioblastoma cells on vascular endothelial growth factor-A signaling via neuropilin1. Int. J. Oncol. 61: 122.

9. Di Nisio, V., et al. 2023. Do aging and parity affect VEGF-A/VEGFR content and signaling in the ovary?—A mouse model study. Int. J. Mol. Sci. 24: 3318.

PROTOCOLS

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

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