Flt-4 (E-3): sc-514825

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.

CHROMOSOMAL LOCATION

Genetic locus: FLT4 (human) mapping to 5q35.3; Flt4 (mouse) mapping to 11 B1.2.

SOURCE

Flt-4 (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1278-1299 within the C-terminus of Flt-4 of mouse 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.

Flt-4 (E-3) is available conjugated to agarose (sc-514825 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514825 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514825 PE), fluorescein (sc-514825 FITC), Alexa Fluor® 488 (sc-514825 AF488), Alexa Fluor® 546 (sc-514825 AF546), Alexa Fluor® 594 (sc-514825 AF594) or Alexa Fluor® 647 (sc-514825 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514825 AF680) or Alexa Fluor® 790 (sc-514825 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514825 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Flt-4 (E-3) is recommended for detection of Flt-4 of mouse, rat and 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) 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 siRNA (m): sc-35398, Flt-4 shRNA Plasmid (h): sc-35397-SH, Flt-4 shRNA Plasmid (m): sc-35398-SH, Flt-4 shRNA (h) Lentiviral Particles: sc-35397-V and Flt-4 shRNA (m) Lentiviral Particles: sc-35398-V.

Molecular Weight of Flt-4: 150 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270 or TF-1 cell lysate: sc-2412.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA
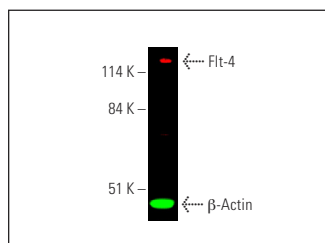
Simultaneous direct near-infrared western blot analysis of Flt-4 expression, detected with Flt-4 (E-3) Alexa Fluor® 790: sc-514825 AF790 and β-Actin expression, detected with β-Actin (C4) Alexa Fluor® 680: sc-47778 AF680 in HEL 92.1.7 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.
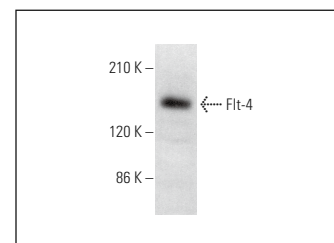
Flt-4 (E-3): sc-514825. Western blot analysis of Flt-4 expression in TF-1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ferrão, J.S.P., et al. 2019. Vascular endothelial growth factor C treatment for mouse hind limb lymphatic revascularization. Vet. Med. Sci. 5: 249-259.

2. Virga, J., et al. 2019. Extracellular matrix differences in glioblastoma patients with different prognoses. Oncol. Lett. 17: 797-806.

3. Kumar, R., et al. 2020. PKCθ-JunB axis via upregulation of VEGFR3 expression mediates hypoxia-induced pathological retinal neovascularization. Cell Death Dis. 11: 325.

4. Zhou, J., et al. 2021. ADSCs enhance VEGFR3-mediated lymphangiogenesis via METTL3-mediated VEGF-C m^{6}A modification to improve wound healing of diabetic foot ulcers. Mol. Med. 27: 146.

5. Chang, T.M., et al. 2022. PTEN regulates invasiveness in pancreatic neuroendocrine tumors through DUSP19-mediated VEGFR3 dephosphorylation. J. Biomed. Sci. 29: 92.

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.

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