SANTA CRUZ BIOTECHNOLOGY, INC.

VEGF-C (E-6): sc-374628

BACKGROUND

The onset of angiogenesis is believed to be an early event in tumorigenesis and may facilitate tumor progression and metastasis. Several growth factors with angiogenic activity have been described. These include fibroblast growth factor (FGF), platelet derived growth factor (PDGF) and vascular endothelial growth factor (VEGF). VEGF is a dimeric glycoprotein with structural homology to PDGF. Several variants of VEGF have been described that arise by alternative mRNA splicing. It has been speculated that VEGF may function as a tumor angiogenesis factor *in vivo*. Two additional proteins, designated VEGF-B and VEGF-C, share a significant degree of homology with VEGF. VEGF-B is abundantly expressed in heart and skeletal muscle and is frequently coexpressed with VEGF. VEGF-C binds to and specifically activates Flt-4 and Flk-1. The genes that encode VEGF-B and VEGF-C have been localized to chromosomes 11q13.1 and 4q34.3, respectively.

REFERENCES

1. Folkman, J., et al. 1989. Induction of angiogenesis during the transition from hyperplasia to neoplasia. Nature 339: 58-61.
2. Ferrara, N., et al. 1991. The vascular endothelial growth factor family of polypeptides. J. Cell. Biochem. 47: 211-218.

CHROMOSOMAL LOCATION

Genetic locus: VEGFC (human) mapping to 4q34.3; Vegfc (mouse) mapping to 8 B1.3.

SOURCE

VEGF-C (E-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 103-137 near the N-terminus of VEGF-C of human origin.

PRODUCT

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

VEGF-C (E-6) is available conjugated to agarose (sc-374628 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374628 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374628 PE), fluorescein (sc-374628 FITC), Alexa Fluor® 488 (sc-374628 AF488), Alexa Fluor® 546 (sc-374628 AF546), Alexa Fluor® 594 (sc-374628 AF594) or Alexa Fluor® 647 (sc-374628 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374628 AF680) or Alexa Fluor® 790 (sc-374628 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374628 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

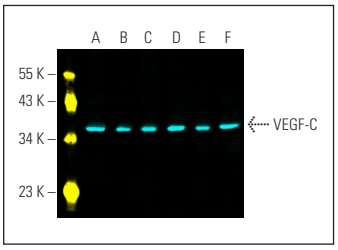
VEGF-C (E-6) is recommended for detection of precursor and mature VEGF-C of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 VEGF-C siRNA (h): sc-39842, VEGF-C siRNA (m): sc-39843, VEGF-C shRNA Plasmid (h): sc-39842-SH, VEGF-C shRNA Plasmid (m): sc-39843-SH, VEGF-C shRNA (h) Lentiviral Particles: sc-39842-V and VEGF-C shRNA (m) Lentiviral Particles: sc-39843-V.

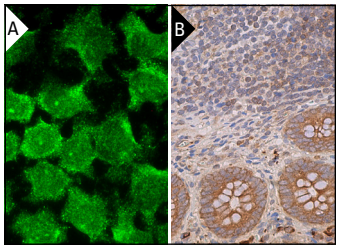
Molecular Weight of VEGF-C: 40/80 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, MH-S whole cell lysate: sc-364785 or MCF7 whole cell lysate: sc-2206.

DATA



VEGF-C (E-6) Alexa Fluor® 647: sc-374628 AF647. Direct fluorescent western blot analysis of VEGF-C expression in SK-N-MC (**A**), MH-S (**B**), F9 (**C**), MCF7 (**D**), RAW 264.7 (**E**) and HeLa (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 488: sc-516790.



VEGF-C (E-6): sc-374628. Immunofluorescence staining of methanol-fixed HeLa cells showing cell surface localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Zeng, C., et al. 2014. The close correlation between heparanase and Cox-2 expression in lymphangiogenesis of cervical cancer. Med. Oncol. 31: 314.
2. Hu, X., et al. 2020. Meningeal lymphatic vessels regulate brain tumor drainage and immunity. Cell Res. 30: 229-243.
3. Zhao, Y., et al. 2021. BACH1 promotes the progression of esophageal squamous cell carcinoma by inducing the epithelial-mesenchymal transition and angiogenesis. Cancer Med. 10: 3413-3426.
4. Glinton, K.E., et al. 2022. Macrophage-produced VEGF-C is induced by efferocytosis to ameliorate cardiac injury and inflammation. J. Clin. Invest. 132: e140685.
5. Song, J., et al. 2023. The YAP/TEAD4 complex promotes tumor lymphangiogenesis by transcriptionally upregulating CCBE1 in colorectal cancer. J. Biol. Chem. 299: 103012.

RESEARCH USE

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