SANTA CRUZ BIOTECHNOLOGY, INC.

VEGF-B (J-14I): sc-80442

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 and include fibroblast growth factor (FGF), platelet derived growth factor (PDGF) and vascular endothelial growth factors (VEGFs). The VEGF protein family is comprised of VEGF, VEGF-B, VEGF-C and VEGF-D, all of which may exhibit angiogenic function *in vivo*. VEGF-B, which exists as two alternatively spliced isoforms known as VEGF-B167 and VEGF-B186, is abundantly expressed in heart and skeletal muscle and is frequently co-expressed with VEGF. VEGF-C binds to and specifically activates Flt-4 and Flk-1. The genes that encode human VEGF-B and VEGF-C have been localized to chromosomes 11q13.1 and 4q34, 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.
3. Plate, K.H., et al. 1992. Vascular endothelial growth factor is a potential tumour angiogenesis factor in human gliomas *in vivo*. Nature 359: 845-848.

CHROMOSOMAL LOCATION

Genetic locus: VEGFB (human) mapping to 11q13.1; Vegfb (mouse) mapping to 19 A.

SOURCE

VEGF-B (J-14I) is a mouse monoclonal antibody raised against full length recombinant VEGF-B167 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

VEGF-B (J-14I) is recommended for detection of VEGF-B167 and VEGF-B186 of mouse, rat and 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VEGF-B siRNA (h): sc-39840, VEGF-B siRNA (m): sc-39841, VEGF-B shRNA Plasmid (h): sc-39840-SH, VEGF-B shRNA Plasmid (m): sc-39841-SH, VEGF-B shRNA (h) Lentiviral Particles: sc-39840-V and VEGF-B shRNA (m) Lentiviral Particles: sc-39841-V.

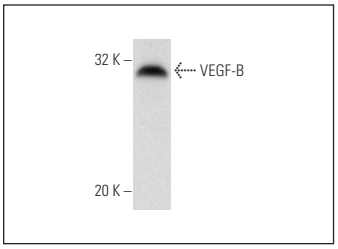
Molecular Weight of VEGF-B: 22 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206 or PC-3 cell lysate: sc-2220.

STORAGE

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

DATA



VEGF-B (J-14I): sc-80442. Western blot analysis of VEGF-B expression in PC-3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lu, T.Y., et al. 2011. Inhibition effects of all *trans*-retinoic acid on the growth and angiogenesis of esophageal squamous cell carcinoma in nude mice. Chin. Med. J. 124: 2708-2714.
2. Tinahones, F.J., et al. 2012. Obesity-associated Insulin resistance is correlated to adipose tissue vascular endothelial growth factors and metalloproteinase levels. BMC Physiol. 12: 4.
3. Singh, N.K., et al. 2013. Both Kdr and Flt1 play a vital role in hypoxia-induced Src-PLD1-PKCγ-$cPLA_2$ activation and retinal neovascularization. Blood 121: 1911-1923.
4. Olaya-C, M., et al. 2015. Immunohistochemical protein expression profiling of growth- and apoptotic-related factors in relation to umbilical cord length. Early Hum. Dev. 91: 291-297.
5. Huang, D., et al. 2016. VEGF-B inhibits hyperglycemia- and Macugen-induced retinal apoptosis. Sci. Rep. 6: 26059.
6. Xu, Y., et al. 2017. miR-203 contributes to IL-17-induced VEGF secretion by targeting SOCS3 in keratinocytes. Mol. Med. Rep. 16: 8989-8996.
7. Jing, X., et al. 2018. Icariin doped bioactive glasses seeded with rat adipose-derived stem cells to promote bone repair via enhanced osteogenic and angiogenic activities. Life Sci. 202: 52-60.
8. Zhang, S.B., et al. 2019. CircAnks1a in the spinal cord regulates hypersensitivity in a rodent model of neuropathic pain. Nat. Commun. 10: 4119.
9. Zhu, A., et al. 2019. Long non-coding RNA H19 down-regulates miR-181a to facilitate endothelial angiogenic function. Artif. Cells Nanomed. Biotechnol. 47: 2698-2705.
10. Jing, X., et al. 2020. Mechanical loading induces HIF-1α expression in chondrocytes via YAP. Biotechnol. Lett. 42: 1645-1654.

RESEARCH USE

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