SANTA CRUZ BIOTECHNOLOGY, INC.

VEGF (SPM225): sc-65617

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. These include fibroblast growth factors (FGFs), 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* because the expression pattern of VEGF is consistent with a role in embryonic angiogenesis. VEGF mRNA is formed in some primary tumors, VEGF is produced by tumor cell lines *in vitro* and VEGF mitogenic activity appears to be restricted to endothelial cells. A member of the PDGF receptor family, Flt, has been identified as a high-affinity receptor for VEGF.

CHROMOSOMAL LOCATION

Genetic locus: VEGFA (human) mapping to 6p21.1; Vegfa (mouse) mapping to 17 C.

SOURCE

VEGF (SPM225) is a mouse monoclonal antibody raised against recombinant VEGF189 protein 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.

APPLICATIONS

VEGF (SPM225) is recommended for detection of 121, 165 and 189 VEGF isoforms of mouse, rat, human and canine 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for VEGF siRNA (h): sc-29520, VEGF siRNA (m): sc-36815, VEGF shRNA Plasmid (h): sc-29520-SH, VEGF shRNA Plasmid (m): sc-36815-SH, VEGF shRNA (h) Lentiviral Particles: sc-29520-V and VEGF shRNA (m) Lentiviral Particles: sc-36815-V.

Molecular Weight of VEGF monomer: 21 kDa.

Molecular Weight of VEGF dimer: 42 kDa.

Positive controls: MCF7 whole cell lysate: sc-2206, NIH/3T3 whole cell lysate: sc-2210 or rat heart extract: sc-2393.

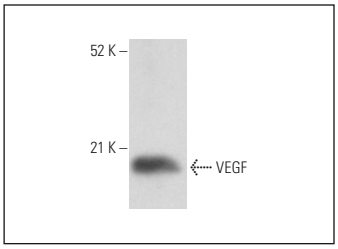
STORAGE

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



VEGF (SPM225): sc-65617. Western blot analysis of VEGF expression in rat heart tissue extract.

SELECT PRODUCT CITATIONS

1. De Kock, J., et al. 2011. Simple and quick method for whole-liver decellularization: a novel *in vitro* three-dimensional bioengineering tool? Arch. Toxicol. 85: 607-612.
2. Sezer, S.D., et al. 2013. VEGF, PIGF and HIF-1α in placentas of early- and late-onset pre-eclamptic patients. Gynecol. Endocrinol. 29: 797-800.
3. Lettieri Barbato, D., et al. 2014. Proline oxidase-adipose triglyceride lipase pathway restrains adipose cell death and tissue inflammation. Cell Death Differ. 21: 113-123.
4. Stein, L.R., et al. 2016. Short-term environmental enrichment enhances synaptic plasticity in hippocampal slices from aged rats. Neuroscience 329: 294-305.
5. Torres, A., et al. 2016. Pro-apoptotic and anti-angiogenic properties of the α/β-thujone fraction from *Thuja occidentalis* on glioblastoma cells. J. Neurooncol. 128: 9-19.
6. Delgado-González, E., et al. 2016. Triiodothyronine attenuates prostate cancer progression mediated by β-adrenergic stimulation. Mol. Med. 22: 1-11.
7. Qin, C., et al. 2017. MicroRNA-302a inhibits cell proliferation and invasion, and induces cell apoptosis in hepatocellular carcinoma by directly targeting VEGFA. Mol. Med. Rep. 16: 6360-6367.
8. Xu, H., et al. 2019. LKB1/p53/TIGAR/autophagy-dependent VEGF expression contributes to PM2.5-induced pulmonary inflammatory responses. Sci. Rep. 9: 16600.
9. Gola, C., et al. 2020. Clinical significance and *in vitro* cellular regulation of hypoxia mimicry on HIF-1α and downstream genes in canine appendicular osteosarcoma. Vet. J. 264: 105538.

CONJUGATES

See **VEGF (C-1): sc-7269** for VEGF antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.