

VEGF-F (Bothrops insularis) Active Protein | VEGF-F active protein

Snake VEGF-F (Bothrops insularis)

CATALOG # AAA79229	HOST E Coli	REACTIVITY Snake
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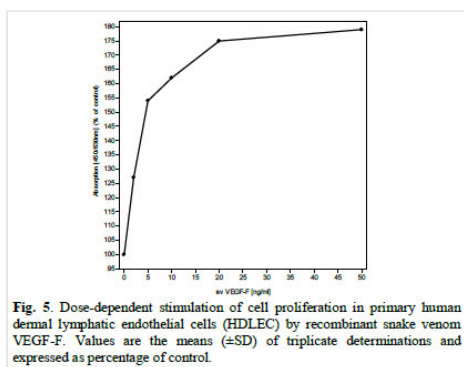
PRODUCT SYNONYMS

VEGF-F (Bothrops insularis); Snake VEGF-F (Bothrops insularis); Recombinant Snake Venom Vascular Endothelial Growth Factor-F; svVEGF; VEGF-F; VEGF-F active protein

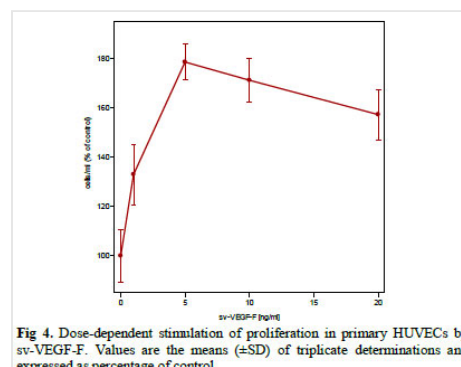
PRODUCT SPECIFICATIONS

Host	E Coli
Reactivity	Snake
Purity/Purification	> 95% by SDS-PAGE & silver stain
Form/Format	Lyophilized
Sequence	MGQVMPFMEV YRHSVCQTRE TLVSILEEHP DEVSHIFRPS CVTALRCGGC CTDESLKCTA TGKRSVGREI MRVDPHKGTS KTEVMQFTEH TDCECRPSA SGVNSRKHKR NP EEGEPRAK FPFV
Sequence Length	124
Endotoxin Level	=0.13 ng per ug of sv-VEGF-F
Biological Activity	Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) and human dermal lymphatic endothelial cells (HDLEC) using a concentration range of 2-50 ng/ml.
Buffer	50 mM acidic acid
Stabilizer	None
Reconstitution	The lyophilized svVEGF-F should be reconstituted in water or medium to a concentration not lower than 50 µg/ml. For long term storage we recommend to add at least 0.1% human or bovine serum albumin.
Preparation and Storage	Lyophilized samples are stable for greater than six months at -20 degree C to -70 degree C. Reconstituted svVEGF-F should be stored in working aliquots at -20 degree C. Avoid repeated freeze-thaw cycles!

IMAGES



Application Data



Application Data

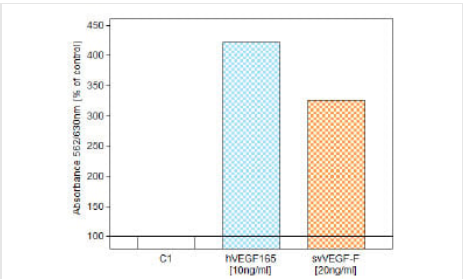


Fig 3. Transwell migration assay of svVEGF-F with hVEGF165 as control.

Application Data

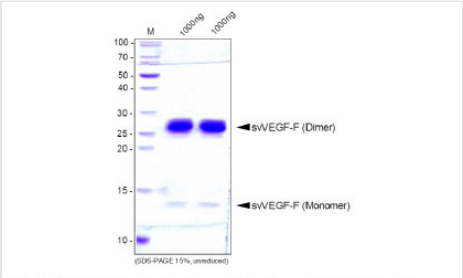


Fig. 1. SDS-PAGE analysis of recombinant human VEGF-F. Samples were loaded in 15% SDS-polyacrylamide gel under non-reducing conditions and stained with Coomassie blue.

SDS-PAGE

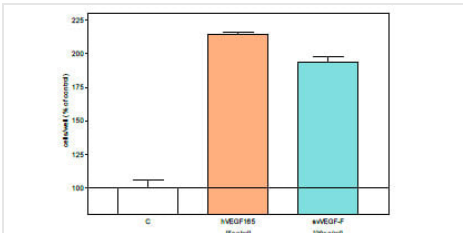


Fig. 2. Proliferation assay with HUVECs. Human VEGF₁₆₅ was used as positive control. Although svVEGF-F (20 ng/ml) had a significant lower activity as human VEGF₁₆₅ (5 ng/ml) it clearly induced the proliferation of HUVECs. Values are the means (±SD) of triplicate determinations and expressed as percentage of control.

Application Data

ADDITIONAL INFORMATION

Related Product Information for VEGF-F active protein	Vascular endothelial growth factor (VEGF-A) and its family proteins are crucial regulators of blood vessel formation and vascular permeability. Snake venom has recently been shown to be an exogenous source of unique VEGF (known as VEGF-F), and now, two types of VEGF-F with distinct biochemical properties have been reported. VEGF-Fs (venom type VEGFs) are highly variable in structure and function among species, in contrast to endogenous tissue-type VEGFs (VEGF-As) of snakes. Although the structures of tissue-type VEGFs are highly conserved among venomous snake species and even among all vertebrates, including humans, those of venom-type VEGFs are extensively variegated, especially in the regions around receptor-binding loops and C-terminal putative coreceptor-binding regions, indicating that highly frequent variations are located around functionally key regions of the proteins. Genetic analyses suggest that venom-type VEGF gene may have developed from a tissue-type gene and that the unique sequence of its C-terminal region was generated by an alteration in the translation frame in the corresponding exons. The svVEGF-F was identified during the generation of abundant expressed sequence tags from the Viperidae snake <i>Bothrops insularis</i> venom glands. The deduced primary sequence, after complete sequencing of the longest snake venom VEGF (svVEGF) cDNA, displayed similarity with vertebrate VEGFs and with the hypotensive factor from <i>Vipera aspis</i> venom. The mature svVEGF appears to be ubiquitously distributed throughout snake venoms and was also confirmed by Northern blot studies of other related Viperidae species and by cDNA cloning of svVEGF from <i>Bothrops jararaca</i> pit viper. The produced recombinant protein dimerizes after refolding processes and was biologically characterized, showing ability to increase vascular permeability. These results established that svVEGF is a novel and important active toxin during the early stages of bothropic snake bite envenoming and represents a new member of the VEGF family of proteins.
Product Categories/Family for VEGF-F active protein	Cytokines & Growth Factors
References	1. Junqueira de Azevedo et al, JBC 276, 2001 2. Gasmi et al, JBC 276, 2002 3. Yamazaki et al, JBC 278, 2003 4. Takahashi et al, JBC 279, 2004 5. Yamazaki et al, JBC 280, 2005 6. Yamazaki et al, JBC 284, 2009

NCBI AND UNIPROT INFORMATION

NCBI GI #	48428664
UniProt Accession #	Q90X24
Molecular Weight	27,6 kDa (Dimer)

NCBI Official Full Name	Snake venom vascular endothelial growth factor toxin
UniProt Protein Name	Snake venom vascular endothelial growth factor toxin
UniProt Gene Name	svVEGF
UniProt Synonym Gene Names	svVEGF
UniProt Entry Name	TXVE_BOTIN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-snake-active-protein/vegf-f-bothrops-insularis/79229>