Active Recombinant Human VEGF 162

Cat. No. VEGFA-25H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human VEGF 162, expressed in a mouse myeloma cell line, NS0. A DNA sequence encoding the 162 amino acid residue variant of human VEGF (Lange, T. et al., 2003, J. Biol. Chem. 278:17164) was joined with the CD33 signal peptide (Met 1- Ala 16) at the N-terminus. The recombinant protein was expressed in a mouse myeloma cell line, NS0.
Species	Human
Source	Mammalian Cells
Description	Vascular endothelial growth factor (VEGF), also known as vascular permeability factor (VPF) or vasculotropin, is a homodimeric 34 - 42 kDa, heparin-binding glycoprotein with potent angiogenic, mitogenic and vascular permeability-enhancing activities specific for endothelial cells. The amino acid sequence of VEGF exhibits primary structural, as well as limited amino acid sequence, homology with that of the A and B chains of PDGF. All eight cysteine residues involved in intra- and inter-chain disulfide bonds are conserved among these growth factors. A cDNA encoding a protein having a 53% amino acid sequence homology in the PDGF-like region of VEGF has been isolated from a human placental cDNA library. This protein, named placenta growth factor (PlGF), is now recognized to be a member of the VEGF family of growth factors. Based on its homology with VEGF, PlGF was also proposed to be an angiogenic factor. Two receptor tyrosine kinases have been described as putative VEGF receptors. Flt-1 (fms-like tyrosine kinase), and KDR (kinase-insert-domain-containing receptor) proteins have been shown to bind VEGF with high affinity.

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

Form	Lyophilized from a 0.2 μm filtered solution in PBS containing 50 μg of bovine serum albumin per 1 μg of cytokine.
Bio-activity	The biological activity of recombinant human VEGF-162 was measured by its ability to stimulate 3H-thymidine incorporation in human umbilical vein endothelial cells. The ED50 for this effect is typically 1.0 - 5.0 ng/mL.
Molecular Mass	The mature recombinant human VEGF-162 is a disulfide-linked homodimer. Based on N-terminal amino acid sequencing, the mature recombinant protein starts at Ala 27. It consists of 162 amino acid residues and has a calculated molecular mass of 18.8 kDa. As a result of glycosylation and proteolytic pr centigradeessing, the recombinant protein preparation contains a mixture of peptides that migrate with apparent molecular masses of 20 and 15 kDa in SDS-PAGE under reducing conditions, respectively.
Endotoxin	< 1.0 eu per 1 μg of the cytokine as determined by the lal
Purity	>95%, as determined by SDS-PAGE and visualized by silver stain.
Usage	FOR RESEARCH USE ONLY
Quality Control Test	Lyophilized samples are stable for up to six months at -20 centigrade to -70 centigrade. Upon reconstitution, this cytokine, in the presence of a carrier protein, can be stored under sterile conditions at 2 - 8 centigrade for one month or at -20 centigrade to -70 centigrade in a manual defrost freezer for three months without detectable loss of activity.
Reconstitution	It is recommended that sterile PBS containing at least 0.1% human serum albumin or bovine serum albumin be added to the vial to prepare a st centigradek solution of no less than 10 μg/mL.

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

Warning	Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	VEGFA vascular endothelial growth factor A [Homo sapiens]
Official Symbol	VEGFA
Synonyms	VEGFA; vascular endothelial growth factor A; vascular endothelial growth factor, VEGF; VEGF A; VPF; vascular permeability factor; VEGF; MVCD1; MGC70609;
Gene ID	7422
mRNA Refseq	NM_001025366
Protein Refseq	NP_001020537
UniProt ID	P15692
Chromosome Location	6p12
Pathway	Bladder cancer, organism-specific biosystem; Bladder cancer, conserved biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Endochondral Ossification, organism-specific biosystem; Focal adhesion, organism-specific biosystem; Focal adhesion, conserved biosystem;
Function	cell surface binding; chemoattractant activity; cytokine activity; cytokine activity; extracellular matrix binding; fibronectin binding; growth factor activity; growth factor activity; heparin binding; heparin binding; platelet-derived growth factor receptor

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	binding; protein binding; protein heterodimerization activity; protein homodimerization activity; receptor agonist activity; vascular endothelial growth factor receptor 1 binding; vascular endothelial growth factor receptor 2 binding; vascular endothelial growth factor receptor binding;

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA