

Recombinant Human Vascular Endothelial Growth Factor A

Human, Recombinant (VEGFA)

Expressed in *E. coli*

Cat. No. CRP08101

Lot. No. (See product label)



[PDB](#) rendering based on 1bj1

PRODUCT INFORMATION

Description: VEGF is a potent growth and angiogenic cytokine. It stimulates proliferation and survival of endothelial cells, and promotes angiogenesis and vascular permeability. Expressed in vascularized tissues, VEGF plays a prominent role in normal and pathological angiogenesis. Substantial evidence implicates VEGF in the induction of tumor metastasis and intra-ocular neovascular syndromes. VEGF signals through the three receptors; fms-like tyrosine kinase (flt-1), KDR gene product (the murine homolog of KDR is the flk-1 gene product) and the flt4 gene product.

Amino-Acid Sequence: Recombinant human VEGF₁₆₅ is a disulfide-linked homodimeric protein consisting of two 165 amino acid polypeptide chains.

M. W. : 38.2 kDa

Recombinant: Expressed in *E. coli*

Purity: >95% by SDS-PAGE and HPLC analyses

Formulation: Sterile Filtered White lyophilized (freeze-dried) powder, Lyophilized from a 0.2mm filtered concentrated solution in PBS, pH 7.4.

Specific Activity: Fully biologically active when compared to standard. Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) using a concentration range of 1.0-8.0 ng/ml.

Endotoxin: Less than 1EU/mg of rHuVEGF₁₆₅ as determined by LAL method.

Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤-20°C. Further dilutions should be made in appropriate buffered solutions.

Storage: This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

FOR RESEARCH USE ONLY

GENE INFORMATION

Gene Name: [VEGFA](#)

Synonym: VPF; VEGF; VEGF-A; VEGFA;MGC70609; VEGFA_HUMAN; Vascular permeability factor; vascular endothelial growth factor A; MGC70609; Vascular endothelial growth factor A precursor; Vascular permeability factor

mRNA Refseq: [NM_001025366](#)

Protein Refseq: [NP_001020537](#)

MIM: [192240](#)

GeneID: [7422](#)

Chromosome Location: 6p12

Pathway: Cytokine-cytokine receptor interaction; Focal adhesion; Pancreatic cancer; Renal cell carcinoma; VEGF signaling pathway; mTOR signaling pathway; Hemostasis; Signaling by VEGF.

Function: cell surface binding;extracellular matrix binding; growth factor activity; growth factor activity; heparin binding; platelet-derived growth factor receptor binding; protein binding; protein homodimerization activity; vascular endothelial growth factor receptor binding.

REFERENCES

- 1.Herbst RS,et al.Angiogenesis and lung cancer: prognostic and therapeutic implications.2005;J. Clin. Oncol. 23 (14): 3243-56.
- 2.Pufe T,et al.The influence of biomechanical parameters on the expression of VEGF and endostatin in the bone and joint system. 2006;Ann. Anat. 187 (5-6): 461-72.

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