Recombinant Human VEGFA

Cat. No. VEGFA-160H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human VEGF-121 produced in*insect cells*is a double, non-glycosylated, polypeptide chain containing 121 amino acids and having a molecular mass of 28423 Dalton. VEGF121 circulates more freely than other VEGF forms, which bind more tightly with vascular heparin sulfates. Recombinant Human VEGF-121 is purified by proprietary chromatographic techniques.
Species	Human
Source	Sf9 Cells
Description	Vascular endothelial growth factor-A was originally isolated from tumor cells and referred to as Tumor Angiogenesis Factor or Vascular Permeability Factor. Although expressed at high levels in certain tumor-derived cells it is produced by a wide variety of cell types. In addition to stimulating vascular growth and vascular permeability it may play a role in stimulating Vasolidation via nitric oxide-dependent pathways. Alternative splicing of the mRNA for VEGF-A results in several isoforms of the protein being produced. Rat and bovine VEGF are one amino acid shorter than the human factor, and the bovine and human sequences show a homology of 95 percent. In contrast to other factors mitogenic for endothelial cells such as FGF-1 , FGF-2 and PDGF, VEGF is synthesized as a precursor containing a typical hydrophobic secretory signal sequence of 26 amino acids. Glycosylation is not required for efficient secretion of VEGF.
Endotoxin	Less than 0.1 ng/ɡ (IEU/ɡ) of VEGF 121.

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Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 90.0% as determined by: (a) Analysis by RP-HPLC. (b) Anion-exchange FPLC. (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.
Formulation	The protein was lyophilized from a concentrated (1mg/ml) solution with no additives.
Solubility	It is recommended to reconstitute the lyophilized Human VEGF-121 in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.
Protein Content	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm. 2. Analysis by RP-HPLC, using a calibrated solution of VEGF-121 as a Reference Standard.
Biological Activity	Recombinant Human VEGF-121 is fully biologically active when compared to standards. Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) using a concentration range of 0.2-0.4 ng/ml, corresponding to a Specific Activity of 5 x 105 IU/mg.
Stability	Lyophilized Recombinant VEGF-121 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution VEGF-121 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.
Dimers And Aggregates	Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

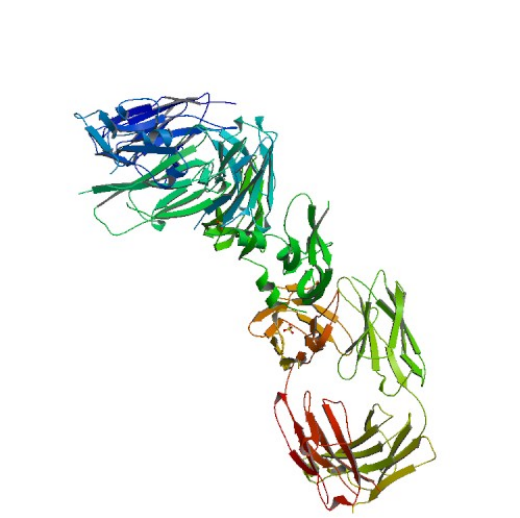
GENE INFORMATION

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Gene Name	VEGFA vascular endothelial growth factor A [Homo sapiens]
Synonyms	vascular endothelial growth factor A; VPF; VEGF; MVCD1; VEGF-A; MGC70609; VEGFA; vascular permeability factor; vascular endothelial growth factor isoform VEGF165; Vascular permeability factor
Gene ID	7422
mRNA Refseq	NM_001025366
Protein Refseq	NP_001020537
MIM	192240
UniProt ID	P15692
Chromosome Location	6p12
Pathway	Bladder cancer; Cytokine-cytokine receptor interaction; Focal adhesion; Pancreatic cancer; Pathways in cancer; Renal cell carcinoma; VEGF signaling pathway; mTOR signaling pathway; Hemostasis; Signaling by VEGF
Function	cell surface binding; cytokine activity; extracellular matrix binding; fibronectin binding; growth factor activity; heparin binding; platelet-derived growth factor receptor binding; protein homodimerization activity; vascular endothelial growth factor receptor 1 binding; vascular endothelial growth factor receptor 2 binding

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