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VEGFA
Recombinant Human VEGF 165

Catalog No.	CRV003-002	**Quantity:**	2 µg
	CRV003A		5 µg
	CRV003B		20 µg
	CRV003C		1.0 mg

Alternate Names: Vascular Endothelial Growth Factor A, VEGF-A, Vascular permeability factor, VPF

Description: Recombinant human Vascular Endothelial Growth Factor 165 is a polypeptide growth factor and a member of the platelet-derived growth factor family. It is a specific mitogen for vascular endothelial cells and a strong angiogenic factor *in vivo*. Two high-affinity tyrosine kinase receptors for VEGF165 have been identified, VEGFR1 (FLT1), and VEGFR2 (KDR). Consistent with the endothelial cell-specific action of VEGF165, expression of both receptor genes has been found predominantly but not exclusively on endothelial cells. Expression of VEGFR1 was also found on human monocytes, neutrophils (PMNs), bovine brain pericytes and villous and extravillous trophoblasts. In addition to its action as a mitogen, it is a potent vascular permeability factor (VPF) *in vivo*. VEGF165 is also a chemoattractant molecule for monocytes and endothelial cells. Five different proteins are generated by differential splicing: VEGF121, VEGF145, VEGF165, VEGF189 and VEGF206. The most abdundant form is VEGF165. Whereas VEGF121 and VEGF165 are secreted proteins, VEGF145, VEGF189 and VEGF206 are strongly cell-associated. The isoforms VEGF145, VEGF165 and VEGF189 bind to heparin with high affinity. VEGF165 is apparently a homodimer, but preparations of VEGF165 show some heterogeneity on SDS gels, depending on the secretion of different glycosylation patterns. All dimeric forms have similar biological activities but their bioavailability is very different. There is good evidence that heterodimeric molecules between the different isoforms also exists and that different cells and tissues express different VEGF isoforms. The other members of this increasing growth factor family are VEGF-B, -C, -D and -E. Another member is the Placenta growth factor PlGF.

UniProt ID: P15692-4

Gene ID: 7422

Source: Insect cells

Molecular Weight: 23 kDa (165 aa) homodimer

Formulation: Lyophilized from acetic acid

Purity: > 90% by SDS-PAGE, visualized by silver stain

Endotoxin Level: < 1 EU/µg

Biological Activity: ED_{50} typically 1-4 ng/ml, determined by the dose-dependent proliferation of human umbilical vein endothelial cells.

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Amino Acid Sequence: APMAEGGGQNHHEVVKFMDVYQRSYCHPIETLVDIFQEYPDEIEYIFKPSCVPLMRCGG CCNDEGLECVPTEESNITMQIMRIKPHQGQHIGEMSFLQHNKCECRPKKDRARQENPC GPCSERRKHLFVQDPQTCKCSCKNTDSRCKARQLELNERTCRCDKPRR

Reconstitution: **Centrifuge vial prior to opening.** Add 50 mM acetic acid to the vial to a concentration of 0.1 - 1.0 mg/mL. **Do not vortex.** After complete solubilization of the protein, it may be further diluted with other solutions containing a carrier protein such as 0.1 % BSA.

Storage & Stability: The lyophilized protein is stable at -20°C to -80° for up to 1 year. Reconstituted working aliquots are stable for 1 week at 2-8°C and for 3 months at -20°C to -80°C. **Avoid repeated freeze/thaw cycles.**

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