# VEGF
# Recombinant Human VEGF

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

**Alternate Names:** Vascular Endothelial Growth Factor, Vasculotropin, GD-VEGF, VAS, VEGF-A, VPF

**Description:** Recombinant human Vascular Endothelial Growth Factor 165, a 23 kDa protein consisting of 165 amino acid residues, is produced as a homodimer. VEGF 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.

**Source:** Insect cells

**Molecular Weight:** 45 kDa

**Formulation:** Lyophilized without additives

**Purity:** > 90% as determined by SDS-PAGE and visualized by silver stain

**Endotoxin Level:** < 0.1 ng/µg of VEGF165

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**Biological Activity:** Determined by the stimulation of $^{3}$H-thymidine incorporation and cell proliferation by human umbilical vein endothelial cells. The $ED_{50}$ range is 1-2 ng/ml.

**Reconstitution:** **Centrifuge vial prior to opening.** Add PBS or medium containing at least 0.1% HSA or BSA to the vial to fully solubilize the protein to a concentration of 50 µg/ml. **Please note that the addition of any carrier protein into this product may produce unwanted endotoxin. This depends upon the particular application employed.**

**Storage & Stability:** Lyophilized protein is stable for 6 months at -20°C to -80°C. Store reconstituted protein in working aliquots at -20°C. **Avoid repeated freeze-thaw cycles.**

**NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.**

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