

## VEGFA

### Recombinant Human VEGF 145

<b>Catalog No.</b>	CS158A CS158B CS158C	<b>Quantity:</b>	2 µg 5 µg 20 µg
<b>Alternate Names:</b>	Vascular endothelial growth factor A, VEGF-A, Vascular permeability factor, VPF		
<b>Description:</b>	<p>A vascular endothelial growth factor (VEGF) mRNA species containing exons 1-6 and 8 of the VEGF gene was found to be expressed as a major VEGF mRNA form in several cell lines derived from carcinomas of the female reproductive system. This mRNA is predicted to encode a VEGF form of 145 amino acids (VEGF145). VEGF145 produced in insect cells is a homodimeric, 20.5 kDa protein belonging to the VEGF-A family.</p> <p>Recombinant VEGF145 induced the proliferation of vascular endothelial cells and promoted angiogenesis <i>in vivo</i>. VEGF145 was compared with previously characterized VEGF species with respect to interaction with heparin like molecules, cellular distribution, VEGF receptor recognition, and extracellular matrix (ECM) binding ability. VEGF145 shares with VEGF165 the ability to bind to the KDR/flk-1 receptor of endothelial cells. It also binds to heparin with an affinity similar to that of VEGF165. However, VEGF145 does not bind to two additional endothelial cell surface receptors that are recognized by VEGF165 but not by VEGF121. VEGF145 is secreted from producing cells as are VEGF121 and VEGF165. However, VEGF121 and VEGF165 do not bind to the ECM produced by corneal endothelial cells, whereas VEGF145 binds efficiently to this ECM. Basic fibroblast growth factor (bFGF)-depleted ECM containing bound VEGF145 induces proliferation of endothelial cells, indicating that the bound VEGF145 is active. The mechanism by which VEGF145 binds to the ECM differs from that of bFGF. Digestion of the ECM by heparinase inhibited the binding of bFGF to the ECM and released pre bound bFGF, whereas the binding of VEGF145 was not affected by heparinase digestion. It therefore seems that VEGF145 possesses a unique combination of biological properties distinct from those of previously characterized VEGF species. The other members of this increasing growth factor family are VEGF-B, -C, -D and -E. Another member is the Placenta growth factor PIGF.</p>		
<b>UniProt ID:</b>	P15692-6		
<b>Gene ID:</b>	7422		
<b>Source:</b>	<i>E. coli</i>		
<b>Molecular Weight:</b>	~34 kDa (145 aa) homodimer		
<b>Formulation:</b>	Lyophilized from 50 mM acetic acid		
<b>Purity:</b>	>95% by SDS-PAGE, visualized by silver stain		
<b>Endotoxin Level:</b>	< 1 EU/ug		
<b>Biological Activity:</b>	ED <sub>50</sub> typically 5-10 ng/ml, determined by dose-dependent stimulation of cell proliferation of human umbilical vein endothelial cells (HUVEC).		

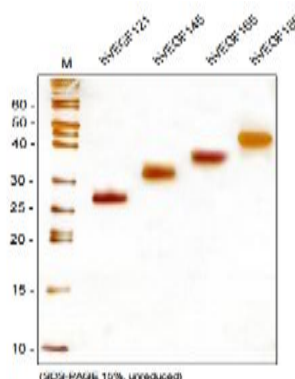


**Amino Acid Sequence:** APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS  
CVPLMRCGGC CNDEGLECVP TEESNITMQI MRIKPHQGQH IGEMSFLQHN  
KCECRPKKDR ARQEKKSVRG KGKGQKRKRK KSRYKSW SVC DKPRR

**Reconstitution:** **Centrifuge vial prior to opening.** Add sterile water 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.**

SDS-PAGE analysis of recombinant human VEGF-A isoforms produced in *E. coli*.  
Samples were loaded under non-reducing conditions in 15% SDS-PAGE and stained with Silver stain.



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