

Human VEGF₁₆₅ (Insect cells)

Synonyms: vascular endothelial growth factor A, VEGFA, VPF, VEGF, MVCD1

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
5 µg	2005.952.005		
20 µg	2005.952.020		

Please enquire for bulk quantities and other vial sizes

Description

Human Vascular Endothelial Growth Factor VEGF₁₆₅, 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, VEGFR-1 (FLT-1), and VEGFR-2 (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 VEGFR-1 was also found on human monocytes, neutrophils (PMNs), bovine brain pericytes and villous and extra villous trophoblast. In addition to its action as a mitogen it is a potent vascular permeability factor (VPF) in vivo. VEGF₁₆₅ is also a chemo attractant molecule for monocytes and endothelial cells. 5 different proteins are generated by differential splicing: VEGF₁₂₁, VEGF₁₄₅, VEGF₁₆₅, VEGF₁₈₉ and VEGF₂₀₆. The most abundant 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 homo-dimer, 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 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 PIGF

- **Source** Insect cells
- **Purity** ≥ 95 % (SDS-PAGE, silver stained)

Biological Activity

The ED₅₀ for stimulation of cell proliferation by human umbilical vein endothelial cells for VEGF₁₆₅ has been determined to be in the range of 1-4 ng/ml.

Reconstitution

The lyophilized VEGF₁₆₅ should be reconstituted in 50 mM acetic acid to a concentration not lower than 50 µg/ml. For long term storage we recommend to add at least 0.1% human or bovine serum albumin.

Amino Acid Sequence

APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCGGC CNDEGLECVP
 TEESNITMQI MRIKPHQGQH IGEMSFLOHN KCECRPKKDR ARQENPCGPC SERRKHLFVQ DPQTCKCSCK
 NTDSRCKARQ LELNERTCRC DKPRR

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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