

Human VEGF₁₂₁

Synonyms: Vascular Endothelial Growth Factor A, VEGFA, VPF, VEGF, MVCD1

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
5 µg	2000.950.005		
10 µg	2000.950.010		
50 µg	2000.950.050		
100 µg	2000.950.100		
500 µg	2000.950.500		
1 mg	2000.950.199		

Please enquire for bulk quantities and other vial sizes

Description

Human Vascular Endothelial Growth Factor₁₂₁ (VEGF₁₂₁), a 18 kDa protein consisting of 121 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 VEGF₁₂₁ have been identified, VEGFR-1 (FLT-1), and VEGFR-2 (KDR). Consistent with the endothelial cell-specific action of VEGF₁₂₁, 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 extravillous trophoblasts. In addition to its action as a mitogen it is a potent vascular permeability factor (VPF) in vivo, and a chemoattractant molecule for monocytes and endothelial cells. Five 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. VEGF₁₂₁ is apparently a homo-dimer, but preparations of VEGF show some heterogeneity on SDS gels depending on the secretion of different forms and the varying degrees of glycosylation. All dimeric forms possess similar biological activities but the bioavailability is very different. There is good evidence that heterodimeric molecules between the different isoforms exist and that different cells and tissues express different VEGF isoforms. The other members of this increasing growth factor family are VEGF-B, -C, -D, -E and PlGF.

- **Source** *E. Coli*
- **Purity** ≥ 98 % (SDS-PAGE, silver stained)
- **Endotoxin level** < 0.1 ng per µg of VEGF₁₂₁

Biological Activity

Measured in a cell proliferation assay using primary HUVECs. The ED₅₀ for this effect is typically 2 - 10ng/mL.

Reconstitution

The lyophilized VEGF₁₂₁ 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 CNDEGLECVPT
TEESNITMQI MRIKPHQGQH IGEMSFLQHN KCECRPKKDR ARQEKCDKPR R

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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