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# Vascular Endothelial Growth Factor-121, human recombinant (rHuVEGF-121)

**Catalog No:** 52625
**Lot No:** XXXXX
**Source:** *E. coli*
**Synonyms:** Vascular endothelial growth factor A, VEGF-A, Vascular permeability factor, VPF, VEGF, MGC70609

## Background

Vascular endothelial growth factor is an important signaling protein involved in both vasculogenesis and angiogenesis. As its name implies, VEGF activity has been mostly studied on cells of the vascular endothelium, although it does have effects on a number of other cell types (e.g. stimulation monocyte/ macrophagemigration, neurons, cancer cells, kidney epithelial cells). VEGF mediates increased vascular permeability, induces angiogenesis, vasculogenesis and endothelial cell growth, promotes cell migration, and inhibits apoptosis. In vitro, VEGF has been shown to stimulate endothelial cell mitogenesisand cell migration. VEGF is also a vasodilator and increases microvascular permeability and was originally referred to as vascular permeability factor. Elevated levels of this protein are linked to POEMS syndrome, also known as Crow-Fukase syndrome. Mutations in this gene have been associated with proliferative and nonproliferative diabetic retinopathy.

## Description

Vascular Endothelial Growth Factor-121 human recombinant produced in *E. coli* is a double, non-glycosylated, polypeptide chain containing 2x121 amino acids and having a molecular mass of 28.4 kDalton. VEGF121 circulates more freely than other VEGF forms, which bind more tightly with vascular heparin sulfates.

## Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

## Formulation

The protein was lyophilized from a concentrated (1 mg/ml) solution with no additives.

## Solubility

It is recommended to reconstitute the lyophilized VEGF-121 in sterile 18 MΩ-cm $H_2O$ not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

## Stability

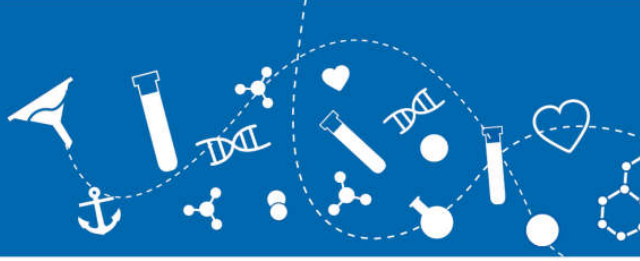
Lyophilized Vascular Endothelial Growth Factor 121, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution VEGF-121 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

## Purity

Greater than 98.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

## Amino Acid Sequence

APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCGGC CNDEGLECVP TEESNITMQI MRIKPHQGQH IGEMSFLQHN KCECRPKKDR ARQENCDKPR R.



**Activity**

VEGF-121 has full biological activity when compared to standards. The activity is determined by the dose-dependent proliferation of HUVECs and is typically 1-6ng/ml corresponding to a specific activity of 166,667-1,000,000U/mg.

**Usage**

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