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## Product Data Sheet

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Product Name: VEGF Human, HEK  
 Cat. No.: GP21037  
 Batch No.: 1

### Product Data

Purity	>98%	Source	HEK293 (Human Embryonic Kidney cell line).
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Vascular endothelial growth factor A; VEGF-A; Vascular permeability factor; VPF; VEGF; MGC70609.		
Amino Acid Sequence	APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCGGC CNDEGLECVP TEESNITMQI MRIKPHQGQH IGEMSFLQHN KCECRPKKDR ARQENPCGPC SERRKHLFVQ DPQTCKCSCK NTDSRCKARQ LELNERTCRC DKPRR.		
Solubility	It is recommended to reconstitute the lyophilized Vascular Endothelial Growth Factor-HEK in sterile 18M-cm H <sub>2</sub> O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.		
Formulation	The protein was lyophilized from a 0.2µM filtered solution of 20mM PB, 150mM NaCl, pH 7.2.		

### Introduction

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 mitogenesis and 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

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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nonproliferative diabetic retinopathy.

### Biological Activity

Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) using a concentration range of 4.0ng/ml, corresponding to a specific activity of  $2.5 \times 10^5$  Units/mg.

### Stability

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

### Background

Vascular Endothelial Growth Factor Human Recombinant produced in HEK293 cells is a double, glycosylated, polypeptide chain containing 165 amino acids (27-191) and having a molecular mass of 40 kDa. The VEGF is purified by proprietary chromatographic techniques.

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