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VEGF Human

Vascular Endothelial Growth Factor Human Recombinant
GRF0409

Product Overview

Name	VEGF Human
Description	
Vascular Endothelial Growth Factor Human Recombinant	
Accession (Primary)	P15692
Synonyms	
Vascular endothelial growth factor A, VEGF-A, Vascular permeability factor, VPF, VEGF, MGC70609.	
Introduction	
Vascular endothelial growth factor (VEGF) is an important signaling protein involved in vessel formation 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/macrophage migration, neurons, cancer cells, kidney epithelial cells). VEGF mediates increased vascular permeability, induces vasculogenesis and endothelial cell production, 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. VEGF is located in normal cartilage though only osteoarthritic cartilage expresses the VEGF receptors, NP1, VEGFR1 and VEGFR2. The VEGF level in the culture media from OA chondrocytes was more than 3 folds higher than in media from normal chondrocytes	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
The VEGF protein was lyophilized from a concentrated (1mg/ml) solution with no additives.	
Stability	
Lyophilized VEGF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution VEGF 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 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.	

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Amino acid sequence

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

Biological Activity

Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) using a concentration range of 3.7-5.6 ng/ml, corresponding to a Specific Activity of 178,570-270,270IU/mg.

Solubility

It is recommended to reconstitute the lyophilized VEGF in sterile 18M-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

References

1. Title :Expression of VEGF and Its Receptors in the Bovine Endometrium Throughout the Estrous Cycle: Effects of VEGF on Prostaglandin Production in Endometrial Cells. Publication :Journal of Reproduction and Development Vol. 56 (2010) No. 2 April P 223-229 \ Link : VEGF prospec publication 2. Title: Cardio-specific long-term gene expression in a porcine model after selective pressure-regulated retroinfusion of adeno-associated viral (AAV) vectors Publications: Gene therapy 15.1 (2008): 12-17. Link: VEGF Human prospec publication 3. Title: SU11248, A selective tyrosine kinases inhibitor suppresses breast tumor angiogenesis and growth via targeting both tumor vasculature and breast cancer cells Publication: Cancer biology & therapy 10.7 (2010): 703-711. Link: Vascular Endothelial Growth Factor prospec publication

Protein content

VEGF protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 0.2875 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a calibrated solution of VEGF as a Reference Standard.

Precautions

VEGF Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P15692)