Vascular Endothelial Growth Factor-121-Sf9, human recombinant (rHuVEGF121-Sf9)

Catalog No: 87409
Lot No: XXXXX
Source: Sf9, Insect Cells
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 insect cells as an 18 kDa homodimer, is a glycosylated, polypeptide chain containing 121 amino acids and having a molecular mass of approximately 36 kDa. VEGF121 circulates more freely than other VEGF forms, which bind more tightly with vascular heparin sulfates. VEGF-121 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

The protein was lyophilized from a solution containing 50 mM acetic acid.

Solubility

The lyophilized VEGF-121 should be reconstituted in 50 mM acetic acid to a concentration not lower than 50 µg/ml.

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 95.0% as determined by SDS-PAGE.

Amino Acid Sequence

APMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCGGC CNDEGLECVP TEESNITMQI MRIKPHQGQH IGEMSFLQHN KCECRPKKDR ARQEKCDKPR

Activity

The ED50 for stimulation of 3H-thymidine incorporation and cell proliferation by human umbilical vein endothelial cells for VEGF121 has been determined to be in the range of 1 - 4 ng/ml.

Usage

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