



Vascular Endothelial Growth Factor-164, mouse recombinant (rmVEGF-164-Sf9)

Catalog No: 54589
Lot No: XXXXX
Source: Baculovirus Sf9 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 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 nonproliferative diabetic retinopathy.

Description

Vascular Endothelial Growth Factor mouse recombinant produced in Sf9 insect cells is a double, glycosylated, polypeptide chain containing 164 amino acids and having a molecular mass of 48 kDa. VEGF is purified by proprietary chromatographic techniques.

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-Sf9 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized Vascular Endothelial Growth Factor Sf9, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution VEGF-Sf9 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.

Activity

The ED₅₀ range, determined by the dose-dependent proliferation of human umbilical vein endothelial cells (HUVEC) (measured by 3H-thymidine uptake) is 1 - 2 ng/ml, corresponding to a specific activity of 1 x 10⁶ units/mg.

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