



PRODUCT DATA SHEET

Product: VEGF (recombinant human)

Cat. No.: BC-295 (10 µg)

Synonyms:

Vascular endothelial growth factor A (VEGF-A),
Vascular permeability factor (VPF), 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/macrophage migration, 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 is linked to POEMS syndrome, also known as Crow-Fukase syndrome. Mutations in this gene have been associated with proliferative and nonproliferative diabetic retinopathy.

Description:

Recombinant Human VEGF produced in *E. Coli* is a double, non-glycosylated, polypeptide chain containing 165 amino acids and having a molecular mass of 38,231 Dalton. The VEGF is purified by proprietary chromatographic techniques.

Amino Acid Sequence:

The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Met-Ala-Glu.

Origin:

Produced in *E. Coli*.

Format:

Sterile Filtered White lyophilized (freeze-dried) powder. Lyophilized from a concentrated (1 mg/mL) solution with no additives.

Purity:

Greater than 98.0% as determined by RP-HPLC and SDS-PAGE.

Reconstitution:

Reconstitute the lyophilized Recombinant Human VEGF in sterile 18MΩ-cm H₂O not less than 100 µg/mL, which can then be further diluted to other aqueous solutions.

Biological Activity:

The biological activity is determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC) using a concentration range of 1.0-8.0 ng/mL.

Storage:

Lyophilized VEGF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Recombinant Human 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). Avoid freeze-thaw cycles.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.