



PRODUCT DATA SHEET

Product: VEGF121, (recombinant human)

Cat. No.: BC-305 (10 µg)

Synonyms:

Vascular endothelial growth factor A precursor (VEGF-A), Vascular permeability factor (VPF).

Background:

Vascular endothelial growth factor-A was originally isolated from tumor cells and referred to as Tumor Angiogenesis Factor or Vascular Permeability Factor. Although expressed at high levels in certain tumor-derived cells it is produced by a wide variety of cell types. In addition to stimulating vascular growth and vascular permeability it may play a role in stimulating Vasolidation via nitric oxide-dependent pathways. Alternative splicing of the mRNA for VEGF-A results in several isoforms of the protein being produced. Rat and bovine VEGF are one amino acid shorter than the human factor, and the bovine and human sequences show a homology of 95 percent. In contrast to other factors mitogenic for endothelial cells such as FGF-1, FGF-2 and PDGF, VEGF is synthesized as a precursor containing a typical hydrophobic secretory signal sequence of 26 amino acids. Glycosylation is not required for efficient secretion of VEGF.

Description:

Recombinant Human VEGF121 produced in *E. Coli* is a double, non-glycosylated, polypeptide chain containing 121 amino acids and having a molecular mass of 28,423 Daltons. VEGF121 circulates more freely than other VEGF forms, which bind more tightly with vascular heparin sulfates.

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 powder. Lyophilized from a 1 mg/mL solution with no additives.

Purity:

Greater than 98.0% as determined by RP-HPLC, anion-exchange FPLC, reducing and non-reducing SDS-PAGE Silver Stained gel. Dimers and aggregates: Less than 1% as determined by silver-stained SDS-PAGE.

Endotoxin:

Less than 0.1 ng/µg (IEU/µg) of Recombinant Human VEGF121.

Reconstitution:

Reconstitute 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 0.2 - 0.4 ng/mL.

Storage:

Lyophilized Recombinant Human VEGF121, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Recombinant Human VEGF121 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).

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.