
Human VEGF 121 Recombinant Protein

Catalog Number: 14-8359

Also Known As: Vascular endothelial growth factor

RUO: For Research Use Only. Not for use in diagnostic procedures.

Product Information

Contents: Human VEGF 121 Recombinant Protein

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Handling Conditions: For best recovery, quick-spin vial prior to opening. Use in a sterile environment

Source: E. coli expressed amino acids ala 27-arg 147 of mature human VEGF121 accession # AF214570

Molecular Mass: The protein is not methionylated at the N-terminal and has a predicted molecular mass of 14,071. The DTT reduced protein migrates as a 14 kDa doublet on SDS-PAGE. The cystine-linked homodimer migrates as a 29 kDa protein on non-reduced SDS-PAGE.

Purity: > 98% as determined by SDS-PAGE

Endotoxin Level: Less than 0.01 ng/ug cytokine as determined by the LAL assay.

Bioactivity: Measured by human umbilical vein endothelial cell proliferation assay. The ED₅₀ is typically 10.0 ng/mL, corresponding to a specific activity of 1.0 x 10⁵ Units/mg.

Formulation: Sterile liquid; 20 mM Acetate, 0.2 M NaCl, pH 5, 1.0% BSA. 0.22 um filtered.



Temperature Limitation: Store at less than or equal to -70°C.



Batch Code: Refer to Vial



Use By: Refer to Vial

Description

Vascular endothelial growth factor (VEGF), also called vascular permeability factor (VPF), is produced by cultured vascular smooth muscle cells. From analysis of transcripts from these cells by PCR and cDNA cloning, 3 different forms of the VEGF coding region have been identified. These cDNAs had predicted products of 189, 165, and 121 amino acids. VEGF is a mitogen primarily for vascular endothelial cells. It is structurally related to platelet-derived growth factor. VEGF, a homodimeric glycoprotein of relative molecular mass 45,000, is the only mitogen that specifically acts on endothelial cells. The VEGF receptor, Flk1, is exclusively expressed in endothelial cells. VEGF may be a major regulator of tumor angiogenesis *in vivo*.

Applications Reported

The recombinant human VEGF has been reported for use in bioassays.

Applications Tested

This recombinant human VEGF has been tested by bioassay of human umbilical vein endothelial cells (HUVEC). Dose-dependent induction of proliferation of HUVECs yields an ED₅₀ of 10.0 ng/ml, corresponding to a specific activity of approximately 1x10⁵ Units/mg.

References

Tischer, E., et al. 1991. The human gene for vascular endothelial growth factor: multiple protein forms are encoded through alternative exon splicing. *J. Biol. Chem.* 266: 11947-11954.
Millauer, B., et al. 1994. Glioblastoma growth inhibited *in vivo* by a dominant-negative Flk-1 mutant. *Nature* 367: 576-579. Folkman, J. 1995. Angiogenesis in cancer, vascular, rheumatoid and other disease. *Nature Med.* 1: 27-31.

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