Overview

Synonyms	Vascular Endothelial Growth Factor121, VPF
Description	**VEGF-A121** is one of five isoforms (121, 145, 165, 189, and 206) of VEGF protein, a cytokine belonging to the Platelet Differentiation Growth Factor (PDGF) family, and existing as a disulfide-linked homodimeric glycoprotein. In contrast to the longer isoforms, VEGF-A121 is more freely diffusible, and cannot bind to heparin. *In vivo,* VEGF is expressed predominantly in lung, heart, kidney, and adrenal glands, and the expression of VEGF is up-regulated by a number of growth factors, including PDGF, Fibroblast Growth Factor (FGF), Epidermal Growth Factor (EGF), and Tumor Necrosis Factor (TNF). VEGF signals via binding to two tyrosine kinase receptors: the Fms-like tyrosine kinase 1 (Flt-1) and the kinase domain receptor (KDR). VEGF is a specific mitogen and survival factor, contributing to abnormal angiogenesis and cancer development. Recombinant **human VEGF-A121 (rhVEGF-A121)** produced in *E. coli* is a disulfide-linked homodimer containing two non-glycosylated polypeptide chains of 121 amino acids each. A fully biologically active molecule, rhVEGF-A121 has a molecular mass of 28.2 kDa analyzed by non-reducing SDS-PAGE and is obtained by proprietary chromatographic techniques.
Species	Human
Source	*E. coli*
Biological Activity	ED_{50} < 5 ng/mL, measured by a cell proliferation assay using HUVEC Cells, corresponding to a specific activity of > 2×10^5 units/mg.
Sequence	MPMAEGGGQN HHEVVKFMDV YQRSYCHPIE TLVDIFQEYP DEIEYIFKPS CVPLMRCGGC CNDEGLECVP TEESNITMQI MRIKPHQGQH IGEMSFLQHN KCECRPKKDR ARQEKCDKPR R

Properties

Measured Molecular Weight	28.2 kDa, observed by non-reducing SDS-PAGE.
Purity	> 95% as analyzed by SDS-PAGE and HPLC.
Formulation	Lyophilized after extensive dialysis against PBS.
Reconstitution	Reconstituted in ddH_2O or PBS at 100 µg/ml.
Endotoxin Level	< 0.2 EU/µg, determined by LAL method.
Storage	Lyophilized recombinant **human VEGF-A121 (rhVEGF-A121)** remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rhVEGF-A121 remains stable up to 2 weeks at 4°C or up to 3 months at -20°C.
Note	For research use only

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