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Vascular Endothelial Growth Factor (VEGF)

100 µl

For Research Use Only. Not for Use in Diagnostic Procedures.

MW (kDa):	UniProt ID:	Entrez-Gene Id:
24	#P15692-1	7422

Background

VEGF is a heparin-binding glycoprotein that is secreted as a homodimer of 45 kDa. Five human VEGF mRNA species encoding VEGF isoforms of 121, 145, 165, 189, and 206 amino acids are produced by alternative splicing of the VEGF mRNA from a single gene (1). Transcripts encoding VEGF165 and VEGF121 are detected in the majority of cells and tissues expressing the VEGF gene. VEGF121 lacks the amino acids encoded by exon 7 of the VEGF gene, which is present in VEGF165 and enables the ability of VEGF165 to bind to heparin and heparan sulfate. Heparin-binding VEGF165 is the best characterized VEGF species. The binding of VEGF165 to the VEGF receptors of vascular endothelial cells is modulated by the addition of exogenous heparin or heparan sulfate and inhibited after digestion of endothelial cells with heparinase (2). Neuropilin-1 is also a VEGF165 isoform specific receptor. It has been reported that neuropilin-1 can enhance the binding of VEGF165 to the Flk-1/KDR receptor (3). VEGF165 expression is regulated by various stimuli including growth factors, cytokines, gonadotropins, nitric oxide, hypoxia, hypoglycemia and oncogenic mutations.

Purity

>95%

Source / Purification

Human Recombinant Protein

Bioactivity

5x10⁵ IU/mg

Background References

- Houck, K. A. et al. (1991) *Mol Endocrinol* 5, 1806-1814.
- Gitay-Goren, H. et al. (1992) *J. Biol. Chem.* 267, 6093-6098.
- Soker, S. et al. (1998) *Cell* 92, 735-745.
- Loureiro, R.M. and D'Amore, P.A. (2005) *Cytokine Growth Factor Rev.* 16, 104-113.

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