



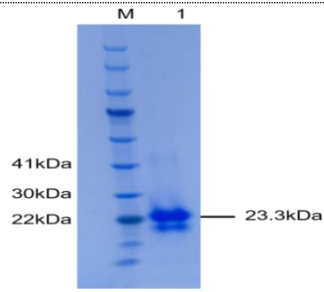
Human Vascular Endothelial Growth Factor 165 (VEGF₁₆₅)

Protein, Recombinant

I. For sale

Product name	Catalog #	Size
Human Vascular Endothelial Growth Factor(VEGF ₁₆₅)	P01V0016	10ug
		50ug
		500ug
		1mg

II. Product Description

Other Names	VEGFA
Protein & NCBI Number	P15962-4, AAM03108.1
Host	293T
Express Region	Ala27-Arg191
Protein Sequence	MNFLLSWVHWSLALLLYLHHAKWSQAAPMAEGGGQNHHEVVKFMDVYQRSYCHPIETLV DIFQEYPDEIEYIFKPCVPLMRCGGCCNDEGLECVPTESNITMQIMRIKPHQGQHGEMSF LQHNKCECRPKKDRARQENPCGPCSERRKHLFVQDPQTCKCCKNTDSRCKARQLELNERT CRCDKPRR
Molecular Weight	The protein molecule consists of 198 amino acids (including the fusion tag), with a predicted molecular weight of 23.3kDa and an actual molecular weight of 18-24kDa.
Fusion Tag	6 × His (C-terminus)
Purity	≥95% SDS-PAGE
Physical Property	Liquid
Components	0.01M PBS+20% glycerol, sterile solution.
Storage & Stability	After aliquoting, the stability of the samples can be maintained for up to 6 months at -20°C to -80°C, avoiding repeated freeze-thaw cycles.
Applications	Antibody preparation, immunoassay (ELISA, WB), subcellular localization and interaction protein identification, etc.
Lead Time	5 to 10 business days; 2 to 3 days for stock products
Figure. SDS-PAGE	 <p>Bis-Tris (MOPS) SDS-PAGE</p>



III. Storage and Transportation

Transport at 2-8°C, product is stable for up to twelve months from date of receipt under sterile conditions at -20°C to -80°C.

IV. Notes

This product is for research use only. Please wear laboratory attire and disposable gloves when handling.

V. Background

Vascular endothelial growth factor (VEGF or VEGF-A), also known as vascular permeability factor (VPF), is a potent mediator of angiogenesis and vasculogenesis in both fetal and adult tissues. It is a member of the PDGF family, characterized by the presence of 8 conserved cysteine residues and a cysteine knot structure. VEGF165 appears to be the most abundant and effective isoform, followed by VEGF121 and VEGF189. VEGF binds to the type I transmembrane receptor tyrosine kinases VEGF R1 (also known as Flt-1) and VEGF R2 (Flk-1/KDR) on endothelial cells. While VEGF shows highest affinity for VEGF R1, VEGF R2 seems to be the principal mediator of VEGF's angiogenic activity.

VEGF165 binds to the semaphorin receptor neuropilin-1 and promotes the formation of a complex with VEGF R2. VEGF is essential during embryogenesis, where it regulates the proliferation, migration, and survival of endothelial cells. In adults, VEGF primarily acts in wound healing and in the female reproductive cycle. Pathologically, it is involved in tumor angiogenesis and vascular leakage. Circulating VEGF levels are associated with disease activity in autoimmune diseases such as rheumatoid arthritis, multiple sclerosis, and systemic lupus erythematosus. VEGF is induced by hypoxia and cytokines such as IL-1, IL-6, IL-8, oncostatin M (OSM), and TNF-alpha.

VI. References

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5. Al Kawas, Hivin et al. "How VEGF-A and its splice variants affect breast cancer development - clinical implications." *Cellular oncology (Dordrecht)* vol. 45,2 (2022): 227-239. doi:10.1007/s13402-022-00665-w.
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