

Human Vascular Endothelial Growth Factor-165 (hVEGF₁₆₅)

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MW (kDa):	UniProt ID:	Entrez-Gene Id:
26	#P15692-1	7422
Background	VEGF ₁₆₅ is the most abundant splice variant of VEGF-A (1,2). VEGF ₁₆₅ is produced by a number of cells including endothelial cells, macrophages and T cells. VEGF ₁₆₅ is involved in angiogenesis, vascular endothelial cell survival, growth, migration and vascular permeability (1). VEGF gene expression is induced by hypoxia, inflammatory cytokines and oncogenes (1,2). VEGF ₁₆₅ binds to heparan sulfate and is retained on the cell surface and in the extracellular matrix (2,3). VEGF ₁₆₅ binds to the receptor tyrosine kinases, VEGFR1 and VEGFR2 (1). VEGF ₁₆₅ is the only splice variant that binds to co-receptors NRP-1 and NRP-2 (1-3) that function to enhance VEGFR2 signaling (1). Binding of VEGF ₁₆₅ to VEGFR1 and VEGFR2 leads to activation of the PI3K/AKT, p38 MAPK, FAK and paxillin (1). VEGF plays a key role in tumor angiogenesis in many cancers (2).	
Endotoxin	Less than 0.01 ng endotoxin/1µg hVEGF ₁₆₅ .	
Purity	>98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hVEGF ₁₆₅ . All lots are greater than 98% pure.	
Source / Purification	Recombinant human VEGF ₁₆₅ (hVEGF ₁₆₅) Ala207-Arg371 (Accession #NP_001020539) was expressed in human 293 cells at Cell Signaling Technology.	
Bioactivity	The bioactivity of recombinant hVEGF ₁₆₅ was determined in a cell proliferation assay using HUVEC. The ED ₅₀ of each lot is between 1-6 ng/ml.	
Background References	<ol style="list-style-type: none"> 1. Takahashi, H. and Shibuya, M. (2005) <i>Clin Sci (Lond)</i> 109, 227-41. 2. Neufeld, G. et al. (1999) <i>FASEB J</i> 13, 9-22. 3. Robinson, C.J. and Stringer, S.E. (2001) <i>J Cell Sci</i> 114, 853-65. 	

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