

Active Recombinant Human VEGFA protein, Avi-tagged, Biotinylated

Cat. No. VEGFA-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human VEGFA(Ala27-Arg191) protein, fused to Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Ala27-Arg191
Description	Vascular endothelial growth factor (VEGF or VEGF-A), also known as vascular permeability factor (VPF), is a potent mediator of both angiogenesis and vasculogenesis in the fetus and adult (1-3). It is a member of the PDGF family that is characterized by the presence of eight conserved cysteine residues and a cystine knot structure (4). Humans express alternately spliced isoforms of 121, 145, 165, 183, 189, and 206 amino acids (aa) in length (4). VEGF165 appears to be the most abundant and potent isoform, followed by VEGF121 and VEGF189 (3, 4). Isoforms other than VEGF121 contain basic heparin-binding regions and are not freely diffusible (4). Human VEGF165 shares 88% aa sequence identity with corresponding regions of mouse and rat, 96% with porcine, 95% with canine, and 93% with feline, equine and bovine VEGF, respectively. VEGF binds the type I transmembrane receptor tyrosine kinases VEGF R1 (also called Flt-1) and VEGF R2 (Flk-1/KDR) on endothelial cells (4). Although VEGF affinity is highest for binding to VEGF R1, VEGF R2 appears to be the primary mediator of VEGF angiogenic activity (3, 4). VEGF165

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binds the semaphorin receptor, Neuropilin-1 and promotes complex formation with VEGF R2 (5). VEGF is required during embryogenesis to regulate the proliferation, migration, and survival of endothelial cells (3, 4). In adults, VEGF functions mainly in wound healing and the female reproductive cycle (3). Pathologically, it is involved in tumor angiogenesis and vascular leakage (6, 7). Circulating VEGF levels correlate with disease activity in autoimmune diseases such as rheumatoid arthritis, multiple sclerosis and systemic lupus erythematosus (8). VEGF is induced by hypoxia and cytokines such as IL-1, IL-6, IL-8, oncostatin M and TNF-alpha (3, 4, 9).

Predicted N Terminal	Ala27
Form	Lyophilized from a 0.2 µm filtered solution in HCl with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Recombinant Human FLT1 Fc Chimera is immobilized at 1 µg/mL (100 µL/well), Recombinant Biotinylated Recombinant Human VEGFA Avi-tag binds with an ED50 of 0.6-3.6 ng/mL.
Molecular Mass	20-28 kDa, under reducing conditions
Endotoxin	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Applications	Bioactivity
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 3 months, -20 to -70 °C under sterile conditions after reconstitution.

Reconstitution Reconstitute at 250 µg/mL in 4 mM HCl.

Conjugation Biotin

GENE INFORMATION

Gene Name VEGFA vascular endothelial growth factor A [Homo sapiens]

Official Symbol VEGFA

Synonyms VEGFA; vascular endothelial growth factor A; vascular endothelial growth factor , VEGF; VEGF A; VPF; vascular permeability factor; VEGF; MVCD1; MGC70609;

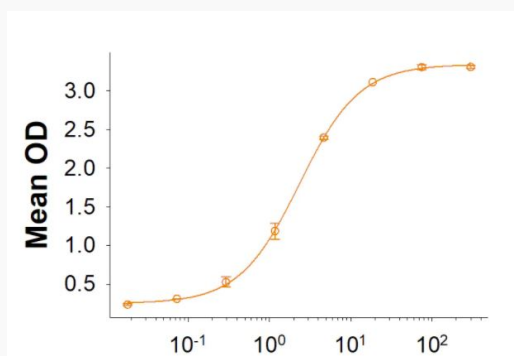
Gene ID 7422

mRNA Refseq NM_001025366

Protein Refseq NP_001020537

UniProt ID P15692

Binding Activity

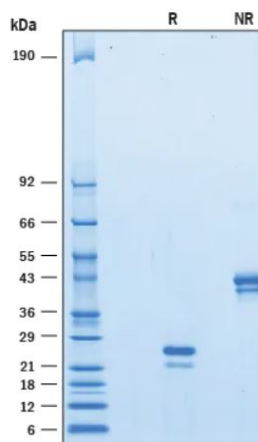


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SDS-PAGE



2 µg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.

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