

Active Recombinant Human KDR protein, Fc/Avi-tagged, Biotinylated

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

SPECIFICATION

Product Overview	Biotinylated Recombinant Human KDR(Ala20-Glu764) protein, fused to Fc/Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Ala20-Glu764
Description	Vascular endothelial Growth Factor Receptor 2 (VEGFR2), also known as FLK-1, KDR, and CD309, is a type I single-pass membrane receptor. Mature VEGFR2 contains a 745 amino acid extracellular domain with seven immunoglobulin-like repeats, 21 transmembrane domain and 571 cytoplasmic domain. Within the extracellular domain, human VEGFR2 shares 80% homology with that of mouse and rat. VEGFR2, VEGFR1(Flt-1) and VEGFR3(Flt-4) belong to the class III subfamily of receptor tyrosine kinases (RTKs). All three receptors have almost exclusive expression in the endothelial cells and play essential roles in vasculogenesis and angiogenesis. VEGFR2 is the receptor for VEGF-A, VEGF-C, VEGF-D, and VEGF-E (viral homologs) (1, 2). Monomeric VEGFR2 dimerizes after binding to dimeric ligand and phosphorylate the Tyr in the cytoplasmic domain (3). VEGFR2 can also form heterodimer with VEGFR1 and VEGFR3 (4-6). Alternative splicing isoforms 2 and 3 which lack the transmembrane and cytoplasmic domains function as decoy receptors (7, 8). Targeting the signaling pathways of VEGFR1 and VEGFR2 are potential

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therapeutic targets for the treatment of inflammation and multiple tumors including breast, gastric, and lung carcinomas (9-12). Cancer immunotherapies using VEGF and VEGFR2 monoclonal antibodies may also be effective in combination with programmed cell death protein 1 (PD-1)/ programmed cell death ligand 1 (PD-L1) immune checkpoint blockade (13). Our Avi-tag Biotinylated VEGFR2 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

Predicted N Terminal	Ala20
Form	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Recombinant Human VEGF165 is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human VEGFR Fc Chimera Avi-tag binds with an ED50 of 4-40 ng/mL.
Molecular Mass	145-165 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

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reconstitution.

Reconstitution Reconstitute at 500 µg/mL in PBS.

Conjugation Biotin

GENE INFORMATION

Gene Name KDR kinase insert domain receptor (a type III receptor tyrosine kinase) [Homo sapiens]

Official Symbol KDR

Synonyms KDR; kinase insert domain receptor (a type III receptor tyrosine kinase); vascular endothelial growth factor receptor 2; CD309; FLK1; VEGFR; VEGFR2; soluble VEGFR2; fetal liver kinase 1; fetal liver kinase-1; protein-tyrosine kinase receptor Flk-1; tyrosine kinase growth factor receptor;

Gene ID 3791

mRNA Refseq NM_002253

Protein Refseq NP_002244

MIM 191306

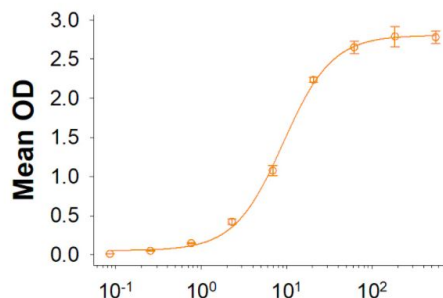
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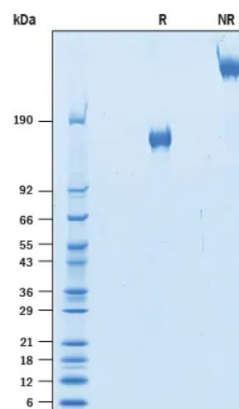
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Binding Activity



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.