

Active Recombinant Human KDR protein, Fc-tagged

Cat. No. KDR-645H **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Human KDR(Met1-Lys327) fused with Fc region of human IgG1 at the C-terminus was expressed in HEK293.

Species Human

Source HEK293

ProteinLength Met1-Lys327

Description

VEGFR2, also called as KDR or Flk-1, is identified as the receptor for VEGF and VEGFC and an early marker for endothelial cell progenitors, whose expression is restricted to endothelial cells in vivo. VEGFR2 was shown to be the primary signal transducer for angiogenesis and the development of pathological conditions such as cancer and diabetic retinopathy. It has been shown that VEGFR2 is expressed mainly in the endothelial cells, and the expression is upregulated in the tumor vasculature. Thus the inhibition of VEGFR2 activity and its downstream signaling are important targets for the treatment of diseases involving angiogenesis. VEGFR2 transduces the major signals for angiogenesis via its strong tyrosine kinase activity. However, unlike other representative tyrosine kinase receptors, VEGFR2 does not use the Ras pathway as a major downstream signaling but rather uses the phospholipase C-protein kinase C pathway to signal mitogen-activated protein (MAP)-kinase activation and DNA synthesis. VEGFR2 is a direct and major signal transducer for pathological angiogenesis, including cancer and diabetic retinopathy, in cooperation with many other signaling partners; thus, VEGFR2 and its downstream signaling appear to be

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critical targets for the suppression of these diseases. VEGF and VEGFR2-mediated survival signaling is critical to endothelial cell survival, maintenance of the vasculature and alveolar structure and regeneration of lung tissue. Reduced VEGF and VEGFR2 expression in emphysematous lungs has been linked to increased endothelial cell death and vascular regression.

Predicted N Terminal Ala 20

Form Lyophilized from sterile PBS, pH 7.4.
 1. Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA.
 2. Please contact us for any concerns or special requirements.

Bio-activity Measured by its ability to inhibit VEGF-dependent proliferation of human umbilical vein endothelial cells (HUVEC) in the presence of 10 ng/mL rhVEGF165. The ED50 for this effect is 40-120ng/mL.

Molecular Mass The recombinant human KDR consists of 549 amino acids and predicts a molecular mass of 61.5 kDa.

Endotoxin <1.0 EU per µg protein as determined by the LAL method.

Purity > 95 % as determined by SDS-PAGE.

Stability Samples are stable for up to twelve months from date of receipt at -70 centigrade

Storage Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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Reconstitution A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.

Shipping In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

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](#)

UniProt ID [P35968](#)

Chromosome 4q11-q12

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Location**Pathway**


Angiogenesis, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Endocytosis, organism-specific biosystem; Endocytosis, conserved biosystem; Focal Adhesion, organism-specific biosystem; Focal adhesion, organism-specific biosystem;

Function

ATP binding; Hsp90 protein binding; growth factor binding; integrin binding; nucleotide binding; protein binding; protein tyrosine kinase activity; receptor activity; receptor signaling protein tyrosine kinase activity; transmembrane receptor protein tyrosine kinase activity; vascular endothelial growth factor-activated receptor activity;

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