

Recombinant Mouse Kdr Protein, His-tagged

Cat. No. Kdr-071M Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant protein from the extracellular domains (Ala20-Glu762) of *Mus musculus* kinase insert domain receptor (a type III receptor tyrosine kinase) (KDR) (NM_010612), with a polyhistidine tag was expressed in human cells.

Species Mouse

Source Human Cells

ProteinLength 20-762 a.a.

Description Tyrosine-protein kinase that acts as a cell-surface receptor for VEGFA, VEGFC and VEGFD. Plays an essential role in the regulation of angiogenesis, vascular development, vascular permeability, and embryonic hematopoiesis. Promotes proliferation, survival, migration and differentiation of endothelial cells. Promotes reorganization of the actin cytoskeleton. Isoforms lacking a transmembrane domain, such as isoform 2, may function as decoy receptors for VEGFA, VEGFC and/or VEGFD. Isoform 2 plays an important role as a negative regulator of VEGFA- and VEGFC-mediated lymphangiogenesis by limiting the amount of free VEGFA and/or VEGFC and by preventing their binding to FLT4. Modulates FLT1 and FLT4 signaling by forming heterodimers. Binding of vascular growth factors to isoform 1 leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate and the activation of protein kinase C. Mediates activation of MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1

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signaling pathway. Mediates phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, reorganization of the actin cytoskeleton and activation of PTK2/FAK1. Required for VEGFA-mediated induction of NOS2 and NOS3, leading to the production of the signaling molecule nitric oxide (NO) by endothelial cells. Phosphorylates PLCG1. Promotes phosphorylation of FYN, NCK1, NOS3, PIK3R1, PTK2/FAK1 and SRC.

Molecular Mass	85 kDa
Endotoxin	Endotoxin level is < 0.1 ng/μg of protein (< 1 EU /μg)
Purity	>90% by SDS-PAGE gel and Coomassie Blue staining
Applications	Antigens, Western, ELISA and other in vitro binding or in vivo functional assays, and protein-protein interaction studies; For research & development use only!
Storage Buffer	Purified protein formulated in a sterile solution of PBS buffer, pH7.2, without any preservatives

GENE INFORMATION

Gene Name	Kdr kinase insert domain protein receptor [Mus musculus (house mouse)]
Official Symbol	Kdr
Synonyms	Kdr; kinase insert domain protein receptor; Flk; orv; Flk-; Flk1; Ly73; VEGF; Flk-1; Krd-1; VEGFR; VEGFR2; VEGFR-2; sVEGFR-2; 6130401C07; vascular endothelial growth factor receptor 2; VEGF receptor-2; fetal liver kinase 1; kinase NYK; protein-tyrosine kinase receptor flk-1; soluble vascular endothelial growth factor receptor 2; vascular endothelial growth factor receptor-3; EC 2.7.10.1

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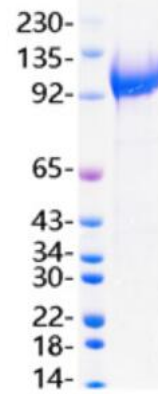
Gene ID 16542

mRNA Refseq NM_010612

Protein Refseq NP_034742

UniProt ID P35918

SDS-PAGE



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