Recombinant Rat Kdr, His-tagged

Cat. No. KDR-8719R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat KDR (EDM04022.1) extracellular domain (Met 1-Glu 760), fused with a polyhistidine tag at the C-terminus, was expressed in Human Cells.
Species	Rat
Source	Human Cells
ProteinLength	1-760 a.a.
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.
Form	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization.
Molecular Mass	The recombinant rat KDR comprises 752 amino acids and predicts a molecular mass of 84.3 kDa. The apparent molecular mass of the rat KDR is approximately 120-130 kDa in SDS-PAGE under reducing conditions due to glycosylation.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method
Purity	> 90 % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70ºC.
Storage	Store it under sterile conditions at -20ºC to -80ºC. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products.
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

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Gene Name	Kdr kinase insert domain receptor [Rattus norvegicus (Norway rat)]
Official Symbol	Kdr
Synonyms	Kdr; kinase insert domain receptor; Vegfr-2; vascular endothelial growth factor receptor 2; FLK-1; fetal liver kinase 1; kinase insert domain protein receptor; protein-tyrosine kinase receptor flk-1; FLK1 kinase insert domain receptor (VEGF receptor 2); FLK1 kinase insert domain receptor (a type III receptor tyrosine kinase) (VEGF receptor 2); NP_037194.1; EC 2.7.10.1
Gene ID	25589
mRNA Refseq	NM_013062
Protein Refseq	NP_037194
UniProt ID	O08775
Chromosome Location	14
Pathway	Axon guidance; Cytokine-cytokine receptor interaction; EPH-Ephrin signaling; Extracellular matrix organization
Function	growth factor binding; protein binding; vascular endothelial growth factor binding; vascular endothelial growth factor-activated receptor activity

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