

# Recombinant Human Kinase Insert Domain Receptor (a type III receptor tyrosine kinase)

Cat. No. KDR-5447H Lot. No. (See product label)

## SPECIFICATION

### Product Overview

Recombinant HumanKDR is produced as a non-chimeric protein in a monomeric form, which has aMW=116 kDa.

### Species

Human

### Source

Insect Cells

### Description

KDR, belonging to the family of receptortyrosine kinases (RTKs). They are named VEGFR-1 (Flt-1), VEGFR-2 (KDR/Fik-1),VEGFR-3 (Flt-4). Their expression is almost exclusively restricted toendothelial cells, but VEGFR-1 can also be found on monocytes. All KDR have seven immunoglobulin-like extracellulardomains, a single transmembrane region and an intracellular split tyrosinekinase domain. VEGFR-2 has a lower affinity for VEGF than the Flt-1 receptor,but a higher signaling activity. Mitogenic activity in endothelial cells ismainly mediated by VEGFR-2 leading to their proliferation. Differentialsplicing of the flt-1 gene leads to the formation of a secreted, solublevariant of VEGFR-1 (KDR). No naturally occurring, secreted forms of VEGFR-2 have so far been reported. The binding of VEGF165 to VEGFR-2 isdependent on heparin.

### Form

Lyophilized from a buffer of 20 mM Tris + 150 mM NaCl, pH 8.0.

### Molecular Weight

116 kDa

### Purity

> 90% by SDS-PAGEand visualized by silver stain

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<b>Endotoxin Level</b>	< 0.1 ng/g of sKDR
<b>Biological Activity</b>	The activity of recombinant human sVEGFR-2 was determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surfaces. The ED50 for this effect is typically 10.0 ng/ml.
<b>Reconstitution</b>	Centrifuge vial prior to opening. The lyophilized human sKDR is soluble in water and most aqueous buffers. The lyophilized powder should be reconstituted in water or PBS to a concentration not lower than 100 µg/ml.
<b>Storage</b>	The material is stable for greater than six months at -20°C to -80°C. After the first thawing it is recommended to aliquot the material in order to avoid repeated freeze-thaw cycles. Store at 2-4°C not longer than 2 days.
<b>Official Symbol</b>	KDR

## GENE INFORMATION

<b>Gene Name</b>	<a href="#">KDR kinase insert domain receptor (a type III receptor tyrosine kinase) [ Homo sapiens ]</a>
<b>Synonyms</b>	KDR; kinase insert domain receptor (a type III receptor tyrosine kinase); FLK1; CD309; VEGFR; VEGFR2; vascular endothelial growth factor receptor 2; soluble VEGFR2; OTTHUMP00000158928; fetal liver kinase 1; fetal liver kinase-1; protein-tyrosine kinase receptor Flk-1; tyrosine kinase growth factor receptor; EC 2.7.10; EC 2.7.10.1
<b>Gene ID</b>	<a href="#">3791</a>
<b>mRNA Refseq</b>	<a href="#">NM_002253</a>

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<b>Protein Refseq</b>	NP_002244
<b>MIM</b>	191306
<b>UniProt ID</b>	P35968
<b>Chromosome Location</b>	4q11-q12
<b>Pathway</b>	Angiogenesis;Cytokine-cytokine receptor interaction; Endocytosis; Focal Adhesion;HIF-2-alpha transcription factor network; Id Signaling Pathway; Integrins in angiogenesis; Neurexins interactions with VEGF and VEGFR; Notch-mediatedHES/HEY network; S1P1 pathway; Signal Transduction; Signaling events mediatedby VEGFR1 and VEGFR2; VEGF binds to VEGFR leading to receptor dimerization;VEGF ligand-receptor interactions; VEGF signaling pathway
<b>Function</b>	ATP binding; Hsp90protein binding; growth factor binding; integrin binding; nucleotide binding;protein binding; protein tyrosine kinase activity; receptor activity;receptor signaling protein tyrosine kinase activity; transmembrane receptorprotein tyrosine kinase activity; vascular endothelial growthfactor-activated receptor activity
<b>Rendering of 1VR2.</b>	

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