

# Recombinant Human Kinase Insert Domain Receptor, 7 Domains,Fc-tagged

**Cat. No.** KDR-83H    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

Recombinant Human Soluble Kinase Insert Domain Receptor Fc fused with the Fc part of human IgG1 produced in baculovirus is a disulfide-linked homodimeric, glycosylated, polypeptide containing 757 amino acids and having a molecular mass of 160 kDa. The soluble receptor protein contains only the first 7 extracellular domains, which contain all the information necessary for ligand binding. The sKDR Fc Chimera is purified by proprietary chromatographic techniques.

### Species

Human

### Source

Insect Cells

### Description

Endothelial cells express three different vascular endothelial growth factor (VEGF) receptors, belonging to the family of receptor tyrosine kinases (RTKs). They are named VEGFR-1 (Flt-1), VEGFR-2 (KDR/Flk-1), VEGFR-3 (Flt-4). Their expression is almost exclusively restricted to endothelial cells, but VEGFR-1 can also be found on monocytes. All VEGF-receptors have seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular split tyrosine kinase domain. VEGFR-2 has a lower affinity for VEGF than the Flt-1 receptor, but a higher signaling activity. Mitogenic activity in endothelial cells is mainly mediated by VEGFR-2 leading to their proliferation. Differential splicing of the flt-1 gene leads to the formation of a secreted, soluble variant of VEGFR-1 (sVEGFR-1). No naturally occurring, secreted forms of VEGFR-2 have so far been reported. The binding of VEGF165 to VEGFR-2 is dependent on heparin.

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|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical Appearance</b> | Sterile Filtered White lyophilized (freeze-dried) powder.                                                                                                                                                                                                                                                                                                 |
| <b>Purity</b>              | Greater than 90.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.                                                                                                                                                                                                                                                                   |
| <b>Formulation</b>         | KDR fusion protein was lyophilized from a concentrated (1 mg/ml) sterile solution containing 1x PBS pH-7.4.                                                                                                                                                                                                                                               |
| <b>Solubility</b>          | It is recommended to reconstitute the lyophilized VEGFR2 in sterile water not less than 100 g/ml, which can then be further diluted to other aqueous solutions.                                                                                                                                                                                           |
| <b>Biological Activity</b> | The activity of sVEGFR-2/Fc was determined by its ability to inhibit the VEGF-dependent proliferation of human umbilical vein endothelial cells. The ED <sub>50</sub> for this effect is typically 10-30 ng/ml.                                                                                                                                           |
| <b>Storage</b>             | Lyophilized VEGFR-2 Fc/Chimera protein although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution FLK1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles. |

## GENE INFORMATION

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

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|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>mRNA Refseq</b>         | NM_002253                                                                                                                                             |
| <b>Protein Refseq</b>      | NP_002244                                                                                                                                             |
| <b>MIM</b>                 | 191306                                                                                                                                                |
| <b>UniProt ID</b>          | P35968                                                                                                                                                |
| <b>Chromosome Location</b> | 4q11-q12                                                                                                                                              |
| <b>Pathway</b>             | Cytokine-cytokine receptor interaction; Endocytosis; Focal adhesion; VEGF signaling pathway; Signaling by VEGF                                        |
| <b>Function</b>            | ATP binding; growth factor binding; nucleotide binding; receptor activity; transferase activity; vascular endothelial growth factor receptor activity |

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