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 occuring, 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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Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 90.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Formulation	KDR fusion protein was lyophilized from a concentrated (1 mg/ml) sterile solution containing 1x PBS pH-7.4.
Solubility	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.
Biological Activity	The activity of sVEGFR-2/Fc was determined by its ability to inhibit the VEGF-dependent proliferation of human umbilical vein endothelial cells. The $ED_{50}$for this effect is typically 10-30 ng/ml.
Storage	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°Cbetween 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

Gene Name	KDR kinase insert domain receptor (a type III receptor tyrosine kinase) [Homo sapiens]
Synonyms	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
Gene ID	3791

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

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