

# Active Recombinant Human KDR Protein, Fc-tagged, Alexa Fluor 488 conjugated

**Cat. No.** KDR-83HAF488    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

Alexa Fluor 488 conjugated 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>Form</b>           | Lyophilized                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Bio-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 ED50 for this effect is typically 10-30 ng/ml.                                                                                                                                                                                  |
| <b>Purity</b>         | > 90 % as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.                                                                                                                                                                                                                                                                                                          |
| <b>Characteristic</b> | Disulfide-linked homodimer<br>Labeled with Alexa Fluor 488 via amines<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                                                                            |
| <b>Storage</b>        | Lyophilized VEGFR-2 Fc/Chimera protein although stable at room temperature for 3 weeks, should be stored desiccated below -18 centigrade. Upon reconstitution FLK1 should be stored at 4 centigrade between 2-7 days and for future use below -18 centigrade. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles. |
| <b>Storage Buffer</b> | KDR fusion protein was lyophilized from a concentrated (1 mg/mL) sterile solution containing 1 × PBS pH 7.4.                                                                                                                                                                                                                                                                         |
| <b>Reconstitution</b> | It is recommended to reconstitute the lyophilized VEGFR2 in sterile water not less than 100 µg/mL, which can then be further diluted to other aqueous solutions.                                                                                                                                                                                                                     |
| <b>Conjugation</b>    | Alexa Fluor 488                                                                                                                                                                                                                                                                                                                                                                      |

## GENE INFORMATION

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

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|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Official Symbol | KDR                                                                                                                                                                                                                                                                                                                            |
| 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                                                                                                                                                                                                                                                                                                                           |
| mRNA Refseq     | NM_002253                                                                                                                                                                                                                                                                                                                      |
| Protein Refseq  | NP_002244                                                                                                                                                                                                                                                                                                                      |
| MIM             | 191306                                                                                                                                                                                                                                                                                                                         |
| UniProt ID      | P35968                                                                                                                                                                                                                                                                                                                         |

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