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### Certificate of Analysis and Data Sheet

## Recombinant Human Vascular Endothelial Growth Factor Receptor-2

**Catalog No.**

228-11630

**Source**

Insect Cells

### *Synonyms*

KDR D1-7, sKDR D1-7, Kinase insert domain receptor, Protein-tyrosine kinase receptor Flk-1, CD309, type III receptor tyrosine kinase, FLK1, VEGFR-2.

### *Introduction*

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 VEGF<sub>165</sub> to VEGFR-2 is dependent on heparin.

### *Description*

Soluble VEGFR-2 Human Recombinant produced in baculovirus is monomeric, glycosylated, polypeptide having a molecular mass of 116 kDa. The soluble receptor protein contains only the first 7 extracellular domains, which contain all the information necessary for ligand binding. The sKDR is purified by proprietary chromatographic techniques.

### *Physical Appearance*

Sterile Filtered White lyophilized (freeze-dried) powder.

### *Formulation*

VEGFR-2 was lyophilized from a concentrated (1 mg/ml) sterile solution containing 25mM MES pH-5.5 and 100mM NaCl.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Solubility***

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.

### ***Stability***

Lyophilized VEGFR-2 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.

### ***Purity***

Greater than 95.0% as determined by SDS-PAGE.

### ***Biological Activity***

The activity of VEGFR2 D1-7 was determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surfaces receptors. The ED50 for this effect is typically 10.0 ng/ml, corresponding to a specific activity of 100,000IU/mg.

### ***Amino Acid Sequence***

A SVGLPSVSLD LPRLSIQKDI LTIKANTTLQ ITCRGQRDL D WLWPNNQSGS EQRVEVTECS  
DGLFCKTLTI PKVIGNDTGA YKCFYRETDL ASVIYVYVQD YRSPFIASVS DQHGCVVYITE  
NKNKTVVIP C LGSISNLNVS LCARYPEKRF VPDGNRISWD SKKGFTIPSY MISYAGMVFC  
EAKINDESYQ SIMYIVVVVG YRIYDVVLSP SHGIELSVGE KLVNLCTART ELNVGIDFNW  
EYPSSKHQHK KLVNRDLKTQ SGSEMKKFLS TLTIDGVTRS DQGLYTCAAS SGLMTKKNST  
FVRVHEKPFV AFGSGMESLV EATVGERVRI PAKYLGYP P EIKWYKNGIP LESNHTIKAG  
HVLTIMEVSE RDTGN YTVIL TNPISKEKQS HVVSLVYV P PQIGEKSLIS PVDSYQYGT T  
QTLTCTVYAI PPPHHIHWY QLEEECANEP SQAVSVTNPY PCEEWR SVED FQGGNKIEVN  
KNQFALIEGK NKT VSTLVIQ AANVSALYKC EAVNKVGRGE RVISFHVTRG PEITLQPD MQ  
PTEQESVSLW CTADRSTFEN LTWYKLG P QP LPIHVGELPT PVCKNLDTLW KLNATMFSNS  
TNDILIMELK NASLQDQGDY VCLAQDRKTK KRHC VVRQLT VLERVAPTIT GNLENQTTSI  
GESIEV SCTA SGNPPPQIMW FK DNETLVED SGIVLKDGNR NLTIRVRKE DEGLYTCQAC  
SVLGCAKVEA FFIIEGA.

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