

## Recombinant Human Vascular Endothelial Growth Factor Receptor-2 (rh VEGFR2 / CD309)

**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:** Recombinant human soluble VEGFR2 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 VEGFR2 is purified by proprietary chromatographic techniques.

**Source:** *Insect cells*

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** Lyophilized from a concentrated solution containing 25mM MES pH 5.5 and 100mM NaCl. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

**Solubility:** It is recommended to reconstitute the lyophilized rh VEGFR2 in sterile water or aqueous buffers not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rh VEGFR2 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rh VEGFR2 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.

**Amino Acid Sequence:** A SVGLPSVSLD LPRLSIQKDI LTIKANTTLQ ITCRGQRDLW LWPNNQSGS EQRVEVTECS DGLFCKTLTI PKVIGNDTGA YKCFYRETDL ASVIYVYVQD YRSPFIASVS DQHGVMYITE NKNKTVVIPC LGSISNLNVS LCARYPEKRF VPDGNRISWD SKKGFTIPSY MISYAGMVFC EAKINDESYQ SIMYIVVVVG YRIYDVVLSV SHGIELSVGE KLVNLCTART ELNVGIDFNW EYPSSKHQHK KLVNRDLKTQ SGSEMKKFLS TLTIDGVTRS DQGLYTCAAS SGLMTKKNST FVRVHEKPFV AFGSGMESLV EATVGERVRI PAKYLGYPVP EIKWYKNGIP LESNHTIKAG HVLTIMEVSE RDTGNVTIL TNPISKEKQS HVVSLVVYVP PQIGEKSLIS PVDSYQYGTT QTLTCTVYAI PPPHHIHWYW QLEEECANEP SQA VSVTNPY PCEEWRVSD FQGGNKIEVN KNQFALIEGK NKTVSTLVIQ AANVSALYKC EAVNKVGRGE RVISFHVTRG PEITLQPDMQ PTEQESVSLW CTADRSTFEN LTWYKLGPPQ LPIHVGELPT PVCKNLDLW KLNATMFSNS TNDILIMELK NASLQDQGDY VCLAQDRKTK KRHCVVRQLT VLERVAPTIT GNLENQTTSI GESIEVSCTA SGNPPPQIMW FKDNELTVED SGIVLKDGNR NLTIRVRKE DEGLYTCQAC SVLGCAKVEA FFIIEGA.

**Biological Activity:** Determined by its ability to abolish the binding of iodinated VEGF to solid surfaces or cell surfaces receptors the ED<sub>50</sub> is typically 10.0 ng/ml, corresponding to a specific activity of 10<sup>5</sup> IU/mg.

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|---------------|-------|--------|----------|
| <i>small</i>  | 2 µg  | Cat.N° | 11344732 |
| <i>medium</i> | 10 µg | Cat.N° | 11344733 |

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