

## VEGF R1/Flt1, Human

**Cat. No.:** Z03365-50

**Size:** 50.0 ug

**Synonyms:** FLT1; Flt-1

### Description:

Vascular endothelial growth factor receptor 1 (VEGF R1), also known as FMS-like tyrosine kinase (Flt1), is a receptor tyrosine kinase which plays a critical role in angiogenesis. Human VEGF R1 contains a signal peptide (aa 1-22), an extracellular domain (ECD aa 27-758) with seven Ig-like repeats, a transmembrane domain (aa 759-780) and a cytoplasmic region (aa 781-1338) with a tyrosine kinase domain and several autocatalytic phosphotyrosine sites. VEGFR-1 and VEGFR-2 are closely related receptor tyrosine kinases and have both common and specific ligands. VEGFR-1 is a kinase-impaired RTK whereas VEGFR-2 is a highly active kinase. Vascular endothelial growth factors (VEGFs) are crucial regulators of vascular development during embryogenesis (vasculogenesis) as well as blood-vessel formation (angiogenesis) in the adult. In mammals, five VEGF ligands, which occur in several different splice variants and processed forms, have been identified so far. These ligands bind in an overlapping pattern to VEGF receptor-1, -2 and -3 (VEGFR1-3), as well as to co-receptors (here defined as VEGF-binding molecules that lack established VEGF-induced catalytic function), such as heparin sulphate proteoglycans (HSPGs) and neuropilins.

Recombinant Human VEGF R1 produced in *CHO* cells is a polypeptide chain containing 535 amino acids. rhVEGF R1 has a molecular mass of 80 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques at GenScript.

### Amino Acid Sequence:

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00001 SKLKDPELSL KGTQHIMQAG QTLHLQCRGE AAHKWSLPEM
00041 VSKESERLSI TKSACGRNGK QFCSTLTLNT AQANHTGFYS
00081 KYLAVPTSK KKETESAIYI FISDTGRPFV EMYSEIPEII
00121 HMTGRELVI PCRVTSPNIT VTLKFKPLDT LIPDGKRIIW
00161 DSRKGFIIISN ATYKEIGLLT CEATVNGHLY KTYNLTHRQT
00201 NTIIDVQIST PRPVKLLRGH TLVLNCTATT PLNTRVQMTW
00241 SYPDEKNKRA SVRRRIDQSN SHANIFYSVL TIDKMQNKDK
00281 GLYTCRVRSG PSFKSVNTSV HIIEGRMDDK THTCPPCPAP
00321 ELLGGPSVFL FPPKPKDTLM ISRTPEVTCV VVDVSHEDPE
00361 VKFNWYVDGV EVHNAKTKPR EEQYNSTYRV VSVLTVLHQD
00401 WLNKEYKCK VSNKALPAPI EKTISKAKGQ PREPQVYTLF
00441 PSREEMTKNQ VSLTCLVKGK YPSDIAVEVE SNGQPENNYK
00481 TTPPVLDSDG SFFLYSKLTV DKSRWQGGNV FSCVSMHEAL
00521 HNHYTEKLSL LSPGK
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**Source:** *CHO*

**Biological Activity:** Measured by its ability to inhibit the VEGF dependent proliferation of HUVEC (human umbilical vein endothelial cells). The ED<sub>50</sub> for this effect is < 30 ng/mL in the presence of 2.5 ng/mL rhVEGF165 (Catalog: Z02689-10).

**Molecular Weight:** 80 kDa, observed by reducing SDS-PAGE.

**Formulation:** Lyophilized after extensive dialysis against PBS.

**Reconstitution:** Reconstituted in ddH<sub>2</sub>O or PBS at 100 µg/ml.

**Purity:** > 95% as analyzed by SDS-PAGE.

**Endotoxin Level:** < 0.2 EU/µg, determined by LAL method.

**Storage:** Lyophilized recombinant Human VEGF R1/Flt-1 remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, Human VEGF R1/Flt-1 should be stable up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.