

## Overview

<b>Synonyms</b>	FLT1; Flt-1
<b>Description</b>	<p><b>Vascular endothelial growth factor receptor 1 (VEGF R1)</b>, 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 trans-membrane 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 <b>Human VEGF R1</b> produced in <i>CHO</i> 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.</p>
<b>Accession No Source</b>	P17948 <i>CHO</i>
<b>Biological Activity</b>	<p>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 &lt; 30 ng/mL in the presence of 2.5 ng/mL rhVEGF165 (Catalog: Z02689-10).</p>
<b>Sequence</b>	<p>SKLKDPELSL KGTQHIMQAG QTLHLQCRGE AAHKWSLPEM        VSKESERLSI TKSACGRNGK QFCSTLTLNT AQANHTGFYS CKYLAVPTSK        KKETESAIYI FISDTGRPFV EMYSEIPEII HMTGRELVI PCRVTSPNIT        VTLKKFPLDT LIPDGKRIIW DSRKGFIIISN ATYKEIGLLT CEATVNGHLY        KTNYLTHRQT NTIIDVQIST PRPVKLLRGH TLVLNCTATT        PLNTRVQMTW SYPDEKNKRA SVRRRIDQSN SHANIFYSVL TIDKMQNKDK        GLYTCRVRSG PSFKSVNTSV HIIEGRMDDK THTCPAP PAP ELLGGPSVFL        FPPKPKDTLM ISRTPEVTCV VVDVSHEDPE VKFNWYVDGV EVHNAKTKPR        EEQYNSTYRV VSVLTVLHQD WLNGKEYKCK VSNKALPAPI EKTISKAKGQ        PREPQVYTL PPSREEMTKNQ VSLTCLVKGF YPSDIAVEWE        SNGQPENNYK TTPPVLDSDG SFFFLYSKLTV DKSRWQQGNV FSCSVMHEAL        HNHYTQKSLS LSPGK</p>

## Properties

<b>Measured Molecular Weight</b>	80 kDa, observed by reducing SDS-PAGE.
<b>Purity</b>	> 95% as analyzed by SDS-PAGE.
<b>Formulation</b>	Lyophilized after extensive dialysis against PBS.
<b>Reconstitution</b>	Reconstituted in ddH <sub>2</sub> O or PBS at 100 µg/ml.
<b>Endotoxin Level</b>	< 0.2 EU/µg, determined by LAL method.
<b>Storage</b>	Lyophilized recombinant <b>Human VEGF R1/Flt-1</b> 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.
<b>Note</b>	For research use only

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