

Human Flt-1 (native) sVEGFR-1 (InCs)

Synonyms: soluble vascular endothelial growth factor receptor-1, soluble FLT1, soluble VEGFR-1

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
5 µg	1395.952.005		
20 µg	1395.952.020		

Please enquire for bulk quantities and other vial sizes

Description

Recombinant human soluble Vascular Endothelial Growth Factor Receptor-1 (sVEGFR-1) is the naturally occurring form and was cloned from total RNA of human umbilical vein endothelial cells. The recombinant mature sVEGFR-1 is a glycosylated monomeric protein with a mass of approximately 96 kDa. The soluble receptor precursor protein consists of the first 6 extracellular domains (Met1-His688) containing the unique 31 amino acids residues at the C-terminus. 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), and VEGFR-3 (Flt-4). Their expression is almost exclusively restricted to endothelial cells, but VEGFR-1 can also be found on monocytes, dendritic cells and on trophoblast cells. The flt-1 gene was first described in 1990. The receptor contains seven immunoglobulin-like extracellular domains, a single transmembrane region and an intracellular split tyrosine kinase domain. Compared to VEGFR-2 the Flt-1 receptor has a higher affinity for VEGF but a weaker signaling activity. VEGFR-1 thus leads not to proliferation of endothelial cells, but mediates signals for differentiation. Interestingly, a naturally occurring soluble variant of VEGFR-1 (sVEGFR-1) was found in HUVEC supernatants in 1996, which is generated by alternative splicing of the flt-1 mRNA. The biological functions of sVEGFR-1 still are not clear, but it seems to be an endogenous regulator of angiogenesis, binding VEGF with the same affinity as the full-length receptor.

- **Source** Insect cells
- **Purity** ≥ 95 % (SDS-PAGE, silver stained)

Biological Activity

The activity of sVEGFR-1 was determined by its ability to inhibit the VEGF-A-induced proliferation of HUVECs.

Reconstitution

The lyophilized sVEGFR-1 is soluble in water and most aqueous buffers. The lyophilized sVEGFR-1 should be reconstituted in PBS to a concentration not lower than 100µg/ml.

Amino Acid Sequence

SGSKLKDPEL SLKGTQHIMQ AGQTLHLQCR GEAAHKWSLP EMVSKESERL SITKSACGRN GKQFCSTLTL
 NTAQANHTGF YSCKYLAVPT SKKKETESAI YIFISDTGRP FVEMYSEIPE IIHMTGREL VIPCRVTS
 ITVTLKKFPL DTLIPDGKRI IWDSRKGFI SNATYKEIGL LTCEATVNGH LYKTNYLTHR QTNTIIDVQI
 STPRPVKLLR GH TLVLNCTA TTPLNTRVQM TWSYPDEKNK RASVRRRIDQ SNSHANIFYS VLTIDKMQNK
 DKGLYTCRVR SGPSFKSVNT SVHIYDKAFI TVKHRKQVLE TVAGKRSYR LSMKVKAFFS PEVVWLKDGL
 PATEKSARYL TRGYSLLIKD VTEEDAGNYT ILLSIKQSNV FKNLATLIV NVKPKIYEKA VSSFDPALY
 PLGSRQILTC TAYGIPQPTI KFWHPCNHN HSEARCD FCS NNEESFILDA DSNMGNRIES ITQRM
 AIEG KNKMASTLVV ADSRISGIYI CIASNKVGTV GRNISFYITD VPNGFHVNLE KMPTEGEDLK
 LSCTVNKFLY RDVTWILLRT VNNRTMHYSI SKQKMAITKE HSITLNLTIM NVSLQDSGT
 Y ACRARNVYTG EEILQKKEIT IRGEHCNKKA VFSRISKFKS TRNDCTTQSN VKH

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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