

# Recombinant human VEGFR1/Flt-1 protein

Catalog Number: ATGP4101

## PRODUCT INFORMATION

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### Expression system

HEK293

### Domain

27-328aa

### UniProt No.

P17948

### NCBI Accession No.

NP\_002010.2

### Alternative Names

VEGFR1, VEGF R1, VEGFR-1, Vascular endothelial growth factor receptor 1 isoform 1, Fms-like tyrosine kinase 1, FLT-1, FLT1, FLT, FRT, Fms-like tyrosine kinase 1, Tyrosine-protein kinase FRT, Tyrosine-protein kinase receptor FLT, Vascular permeability factor receptor, fms-related tyrosine kinase 1, vascular endothelial growth factor, vascularpermeability factor receptor

## PRODUCT SPECIFICATION

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### Molecular Weight

60.3kDa (535aa)

### Concentration

0.5mg/ml (determined by absorbance at 280nm)

### Formulation

Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol

### Purity

> 90% by SDS-PAGE

### Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

### Biological Activity

Measured by its ability to inhibit proliferation using HUVEC human umbilical vein endothelial cells in the presence of Human VEGF165. The ED50 range  $\leq$  60ng/ml.

### Tag

hIgG-Tag

### Application

SDS-PAGE, Bioactivity

### Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

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## BACKGROUND

### Description

VEGFR1(Vascular endothelial growth factor receptor 1), also known as FLT-1(Fms-like tyrosine kinase 1), is belongs to the class III subfamily of receptor tyrosine kinases. While family members VEGFR1, VEGFR2and VEGFR3 are all mainly expressed on endothelial cells, only VEGFR1 is expressed on macrophages, and mainly plays inhibitory roles. Inhibitors of VEGFR are used in the treatment of cancer. It acts as a cell-surface receptor for VEGFA, VEGFB and PGF, and plays an essential role in the development of embryonic vasculature, the regulation of angiogenesis, cell survival, cell migration, macrophage function, chemotaxis, and cancer cell invasion. VEGFR1 binds VEGF with higher affinity than does VEGFR2, but shows weaker kinase activity. The VEGF-kinase ligand/receptor signaling system plays a key role in vascular development and regulation of vascular permeability. Recombinant human VEGFR1/Flt-1, fused to hIgG-tag at C-terminus, was expressed in HEK293 cell and purified by using conventional chromatography techniques.

### Amino acid Sequence

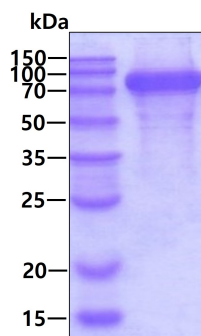
SKLKDPELSL KGTQHIMQAG QTLHLQCRGE AAHKWSLPEM VSKESERLSI TKSACGRNGK QFCSTLTLNT AQANHTGFYS  
 CKYLAVPTSK KKETESAIYI FISDTGRPFV EMYSEIPEII HMTEGRELVI PCRVTSPNIT VTLKKFPLDT LIPDGKRIIW  
 DSRKGFISN ATYKEIGLLT CEATVNGHLY KTYNLTHRQT NTIIDVQIST PRPVKLLRGH TLVLNCTATT PLNTRVQMTW  
 SYPDEKNKRA SVRRRIDQSN SHANIFYSVL TIDKMQNKDK GLYTCRVRSG PSFKSVNTSV HI<LEPKSCDK THTCPAP  
 ELLGGPSVFL FPPKPKDTLM ISRTPEVTCV VVDVSHEDPE VKFNWYVDGV EVHNAKTKPR EEQYNSTYRV VSVLTVLHQD  
 WLNGKEYKCK VSNKALPAPI EKTISKAKGQ PREPQVYTLPSRDELTKNQ VSLTCLVKGF YPSDIAVEWE SNGQPENNYK  
 TTPPVLDSDG SFFLYSKLTV DKSRWQQGNV FSCSVMHEAL HNHYTQKSL S LSPGK>

### General References

Peters, K.G. et al. (1993) Proc. Natl. Acad. Sci. USA 90:8915-8919.  
 Kendall R.L., et al., (1993), Natl. Acad. Sci. U.S.A. 90:10705-10709.  
 Herley M.T., et al.,(1999), Biochem. Biophys. Res. Commun. 262:731-738.  
 Kendall R.L., et al., (1993), Natl. Acad. Sci. U.S.A. 90:10705-10709.

## DATA

### SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain

### Biological Activity

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Human VEGFR1/Flt-1 inhibit proliferation of the HUVEC human umbilical vein endothelial cells in the presence of Human VEGF165. The ED50 range  $\leq 60$  ng/ml.

