

# Human VEGFR1 / FLT-1 Protein (His Tag)

Catalog Number: 10136-H08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

FLT; FLT-1; VEGFR-1; VEGFR1

### Protein Construction:

A DNA sequence encoding the human VEGFR1 (P17948-1) extracellular domain (Met 1-Asn 756) was expressed, fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to inhibit the VEGF-dependent proliferation of human umbilical vein endothelial cells (HUVEC) (Conn, G. et al.,1990 , Proc. Natl. Acad. Sci. USA 87:1323.). The ED<sub>50</sub> for this effect is typically 10-40 ng/mL in the presence of 10 ng/mL human VEGF165.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Ser 27

### Molecular Mass:

The secreted recombinant human VEGFR1 consists of 741 amino acids with the predicted molecular mass of 83.7 kDa. As a result of glycosylation, rhVEGFR1 migrates as an approximately 110-120 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

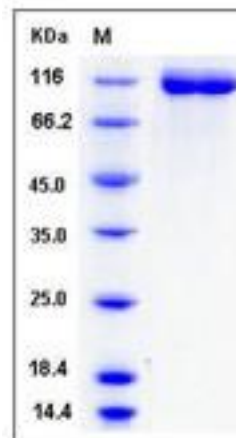
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Vascular endothelial growth factor receptor 1, also known as VEGFR-1, Fms-like tyrosine kinase 1, Tyrosine-protein kinase FRT, Tyrosine-protein kinase receptor FLT, Vascular permeability factor receptor and FLT1, is a single-pass type I membrane protein and secreted protein which belongs to the protein kinase superfamily, Tyr protein kinase family and CSF-1/PDGF receptor subfamily. VEGFR-1 / FLT1 contains seven Ig-like C2-type (immunoglobulin-like) domains and one protein kinase domain. VEGFR-1 / FLT1 is expressed mostly in normal lung, but also in placenta, liver, kidney, heart and brain tissues. It is specifically expressed in most of the vascular endothelial cells, and also expressed in peripheral blood monocytes. VEGFR-1 / FLT1 is not expressed in tumor cell lines. VEGFR-1 / FLT1 is an essential receptor tyrosine kinase that regulates mammalian vascular development and embryogenesis. EGF-induced angiogenesis requires inverse regulation of VEGFR-1 and VEGFR-2 in tumor-associated endothelial cells. VEGFR-1 / FLT1 is a receptor for VEGF, VEGFB and PGF. It has a tyrosine-protein kinase activity. The VEGF-kinase ligand/receptor signaling system plays a key role in vascular development and regulation of vascular permeability.

## References

1. Shibuya M., *et al.*, (1990), Nucleotide sequence and expression of a novel human receptor-type tyrosine kinase gene (flt) closely related to the fms family. *Oncogene* 5:519-524.
2. Kendall R.L., *et al.*, (1993), Inhibition of vascular endothelial cell growth factor activity by an endogenously encoded soluble receptor. *Proc. Natl. Acad. Sci. U.S.A.* 90:10705-10709.
3. Herley M.T., *et al.*, (1999), Characterization of the VEGF binding site on the Flt-1 receptor. *Biochem. Biophys. Res. Commun.* 262:731-738.

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